On the Ball

Implementation of Canada Basketball's Athlete Development Model

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Submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

(Social and Cultural Health)

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Abstract

The purpose of this dissertation was to explore the perceived benefits and challenges of Canada Basketball's athlete development model (ADM)/long-term athlete development (LTAD) by administrators, learning facilitators, and coaches at Canada Basketball to better understand the barriers to and enablers of this process. The methodological approach used for the study was an exploratory case study. Methods were established that were consistent with the iterative nature of case study. In total, 5 participants who identified as administrator/learning facilitator/coach, 6 participants who identified as /learning facilitator/coach, and 1 participant who identified as a coach participated in the study. In-depth semi-structured interviews were conducted with each participant that provided new insight into participants' perceptions of and experiences with ADM/LTAD relative to their positions. Analysis revealed themes related to perceived (a) benefits while using ADM/LTAD; and (b) and challenges with using ADM/LTAD. These findings provide a preliminary assessment of one sport specific athlete development model and may inform research of other sport-specific athlete development programs. Several implications of the study findings are discussed and suggestions are posed for future research.

Keywords: coaching, sport, athlete development, benefits, challenges, LTAD, Canada Basketball.

Acknowledgements

I would like to extend thanks to the many people, who so generously contributed to the work presented in this dissertation. To begin, I would like to thank my mentors and supervisors, Dr. James Mandigo and Dr. Philip Sullivan for their encouragement, devotion and support throughout this entire process. With their attention to details and constructive criticisms, they continually challenged me to push myself and my work with this thesis. I am grateful to the other members of my committee, Dr. Lucie Thibault, and Dr. Ken Lodewyk. You have been an immense influence on my growth as an academic.

I am also hugely appreciative to Dr. Anna Lathrop, Dr. Madelyn Law, Dr. Nancy Francis, Dr. Mandy Frake-Mistak, Dr. Katelyn LaForge-MacKenzie, and many other colleagues for sharing their experience and expertise so willingly, and for being so dedicated to helping me see this journey to the end.

Special mention goes to Canada Basketball and their administrators, learning facilitators and coaches for agreeing to allow me to work so closely with them. This thesis would not have been possible without their support.

Finally, but by no means least, thanks go to Kirk, Matthew, Erin, Mum, Dad, Roy and Adam for almost unbelievable support. They are the most important people in my world and I dedicate this dissertation to them. The time, encouragement and continuous love have been the foundation for this journey.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Chapter 1

Introduction

Sport has the very important potential to serve as a medium to provide benefits and experiences to young athletes (Côté & Fraser-Thomas, 2007; Côté & Hay, 2002; Kirk, 2005). It is important to note that these benefits are not innate or assured but must be carefully constructed and delivered. With the correct program design and leadership, these benefits also have the potential to be transferred and carried on into other areas of the athlete's life, encouraging lifelong participation in physical activity. Consistent with the literature on youth sport development when designing sport programs, care needs to be taken to ensure that these programs are being developed with these benefits as a priority (Fraser-Thomas, Côté, & Deakin, 2005).

The development of an athlete is sometimes likened to an art where coaches are involved in a complex orchestration of planning, executing, training, and competition (Nash, Sproule, & Horton, 2011). Many models have been developed to help countries, sport clubs, and coaches prepare athletes to reach their full potential. Bruner, Erickson, Wilson, and Côté (2010) suggested that athlete development models were created with the mind-set of "continuity and developmental change across athlete developmental stages" (p. 137). Côté, Bruner, Erickson, Strachan, and Fraser-Thomas (2010) postulated that the key role of coaches at particular points in athletes' development is to consider their global developmental pathway. Researchers have examined youth sport programs that are recognized as having sport talent and elite development environments (Martindale, Collins, & Abraham, 2007; Martindale, Collins, & Daubney, 2005). According to Green (2007), governments increasingly utilize sport programs and

initiatives to realize an array of objectives in a range of policy arenas with the goal of the betterment of their society. These policy objectives can include social inclusion, crime reduction, urban regeneration, raising school standards, reducing obesity, and international prestige (Green, 2007). One such environment in Canada is long-term athlete development (LTAD). Those Canadian sports receiving financial support from the federal government are required to have a sport-specific framework of LTAD in place.

LTAD originates from the work of Istvan Balyi in a paper published by the Coaching Association of Canada (CAC) (Balyi, 1990). In Canada, national sport organizations (NSOs), provincial/territorial sport organizations (PSOs/TSOs) and local sport organizations (LSOs) develop sport-specific LTAD models and resources to assist all organization members to understand the model. I chose to study an NSO, specifically Canada Basketball. This was done for two reasons. First Canada Basketball has had a version of LTAD since 2003. Canada Basketball refers to their LTAD as the athlete development model (ADM). Secondly, along with colleagues I previously piloted a study with Canada Basketball and their use of physical literacy in LTAD (Sullivan, Whitaker – Campbell, MacKay, 2010). Future research suggestions of the pilot study provided the motivation for the present study.

The present study was an examination of a youth sport development program, namely athlete development model (ADM)/ long-term athlete development (LTAD) developed by Canada Basketball. This was accomplished by addressing the research question: “What are the perceived benefits and challenges associated with using ADM/LTAD for Basketball in Canada?” A case study methodology was used in which administrator’s, learning facilitator’s, and coach’s perceptions of the benefits and

challenges of ADM/LTAD were examined. This is appropriate for investigating a population, general phenomenon or, as in the case of the present study, understanding a program (Stake, 2005).

Chapter 2

To understand the specific requirements needed for youth sport development programs, it is important to understand how athlete development has evolved and how athlete development programs have been structured in Canada.

Federal and provincial/territorial governments are both actively involved in the administration of sports. Sport Canada generally oversees and leads the federal interest and interaction in sports. Although the federal government generally tries to take a leadership role in areas of international competition some provinces, especially Quebec, are actively involved in sport at all levels (Sport Canada, 2012).

Canadian Sport Policy (CSP)

In 2000 an idea was conceived by Sport Canada to create a Canadian policy for sport to address the gaps that Sport Canada felt had developed in the athlete development system throughout the 1990s. The thought was that this was a response to reductions in public funding for sport, and to coordinate the actions of governments and non-government organizations throughout Canada in their efforts to promote sport and provide greater support to athletes (Thibault & Harvey, 2013).

There were several important events which led to the development of the Canadian Sport Policy. In 1998 a report titled, Sport in Canada: Leadership, Partnership and Accountability. Everybody's Business was published (Mills & Canadian Heritage, 1998). Scholars have reported that while the report was meant to address "social, cultural, economic and political significance of sport for Canadians" (Thibault & Harvey, 2013, p. 25), it was reported by the media to appear as the public subsidizing professional sport (Thibault & Harvey, 2013). Shortly after this Denis Coderre, the then Secretary of State

for Sport within the Department of Canadian Heritage convened major stakeholders at the National Summit on Sport, held in April 2001 (Government of Canada, 2001). Denis Coderre brought together 400 individuals (Thibault & Kikulis, 2010) representing a wide range of sport interest in Canada. What emerged from the summit was the development of the Canadian Sport Policy (CSP).

In 2002, Sport Canada released the Canadian Sport Policy (CSP), the first-ever intergovernmental policy for sport. Initially presented in Iqaluit, Nunavut, in April 2002, the policy was endorsed by the Federal, and Provincial/Territorial (F-P/T) Ministers responsible for sport (Sport Canada, 2002b). CSP provided a Pan-Canadian vision and framework for sport and formed the basis for the Government of Canada's new sport act (2003). Originally issued in May 2002 (Sport Canada, 2002a), and to new legislation, Bill C-12 in March 2003, the framework came to be known as the Physical Activity and Sport Act (Parliament of Canada, 2003). The hope was that by creating CSP and the Physical Activity and Sport Act the importance to the well-being of the Canadian population would be realized (Sport Canada, 2002a). To accomplish this CSP outlined four pillars (Enhanced Participation, Enhanced Excellence, Enhanced Capacity and Enhanced Interaction) and specified four action plans (federal, individual provincial/territorial, F-P/T and community plans) to support these pillars (Sport Canada, 2002a). Scholars have reported that "with these four priorities, the federal government had done what they initially sought to do, acknowledging the importance of focusing on both sport participation and excellence" (Thibault & Harvey, 2013, p. 26).

Building on the success of the 2002 version, in 2009 the government committed to carry out a process to review the progress achieved under CSP 2002 (Sport Canada,

2012). Sport Canada worked in collaboration with provincial/territorial governments and sport sector leaders in carrying out CSP renewal process over the period of 2010-2012. This included consultations with the public, government officials, sport stakeholders, and representatives of related sectors at the local, community, provincial/territorial, and national levels (Sport Canada, 2012). These consultations encompassed more than 50 in-person meetings across Canada, including outreach to specific groups such as women, persons with a disability, Aboriginal People, ethno-cultural communities, and official language minority communities (Sport Canada, 2012). An E-Survey also resulted in more than 3,300 responses from more than 800 organizations and 2,500 individuals (Sport Canada, 2012). Leaders within Sport Canada felt that the survey would provide direction for the period 2012-2022 for all governments, institutions, and organizations committed to realizing the positive impacts of sport on individuals, communities, and society (Sport Canada, 2012). One of the reviews conducted by the Sutcliffe Group (2010) determined that a sport policy in Canada was essential:

> The Canadian Sport Policy….is considered essential in guiding/directing and as a unifying force in, the sport system in Canada. The policy provided a vision and an opportunity for alignment by defining common goals and objectives as is the mechanism by which progress can, and is being made to grow sport in Canada. Not only did it provide structure but it set a good direction. (p. 6)

Sport Canada identified some success with CSP including: “bilateral agreements between federal and provincial/territorial governments, new investments in sport by all orders of government and the private sector, and the systematic use of participant pathway and development models such as Sport for Life (S4L)” (Sport Canada, 2012, p.

22). The evaluation of CSP by the Sutcliffe Group and the extensive review process with numerous experts and users of CSP resulted in a national meeting in November 2011 (Thibault & Harvey, 2013). With this information Sport Canada decided to proceed with a follow up CSP. In February 2011, Sport Ministers also agreed to proceed with developing a follow up policy to CSP, as well as an accompanying joint action plan for federal and provincial/territorial governments. The renewed CSP, eventually called CSP 2.0 was introduced in 2012 with an expected lifespan of 10 years taking it to 2022 (Sport Canada, 2012).

Based on the findings gathered during the renewal process, the 2012 CSP was updated to include a policy vision, policy values, policy principles and a policy framework to better address the five policy goals identified. The framework can be seen in figure 1.

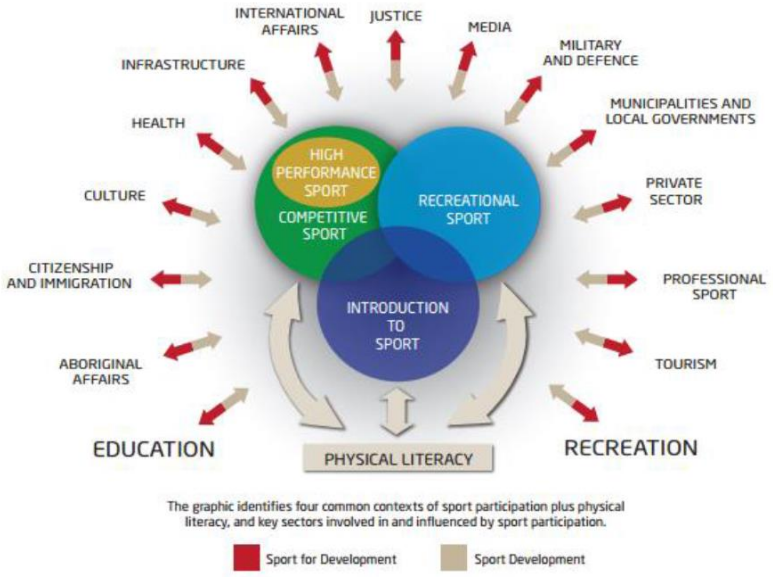


Figure 1- CSP 2012 Framework (CSP 2012, p.7).

The updated 2012 CSP vision "is to have, by 2022, a dynamic and innovative culture that promotes and celebrates participation and excellence in sport" (Sport Canada, 2012, p. 5). The policy values include: "fun, safety, excellence, commitment, personal development, inclusion and accessibility, and respect, fair play and ethical behaviour" (Sport Canada, 2012, p. 5). Sport Canada identified seven principles that they believed represented a quality sport system. The principles included "values-based, inclusive, technically sound, collaborative, intentional, effective and sustainable (Sport Canada, 2012, p. 6). Additionally, Sport Canada included physical literacy in the updated framework. There was quite a bit of information regarding physical literacy, suggesting that they identified physical literacy as being important for sport in Canada.

A desired outcome of the Canadian Sport Policy 2012 was that both the number and diversity of Canadians participating in sport should increase over the 2012-2022 period. They suggested five broad objectives to assist with this outcome. These objectives were clear in the desire to have as many Canadians participating in sport as possible. The objectives included learning initiatives such as: fundamental skills, knowledge and attitudes to participate in organized and unorganized sport; recreational initiatives such as: fun, health, social interaction and relaxation; competitive initiatives such as: improved and measured performance against others in competition in a safe and ethical manner and; high performance sport initiatives such as: world-class results at the highest levels of international competition through fair and ethical means. Finally, CSP 2.0 identified the need for sport for development. That is using **s**port as a tool for social and economic development, and the promotion of positive values at home and abroad (Sport Canada, 2012, p. 8).

As important as it was for the present study to discuss Canadian Sport Policy, it was equally important to present the make up of the Canadian Sport System. The next section reviewed this system.

Canadian Sport System

The current sport system in Canada is made up of National (NSO), Provincial/Territorial (PSO) (TSO) and Local (LSO) sport organizations that provide sport programming and services at the national, provincial/territorial and municipal levels (see Figure 2).

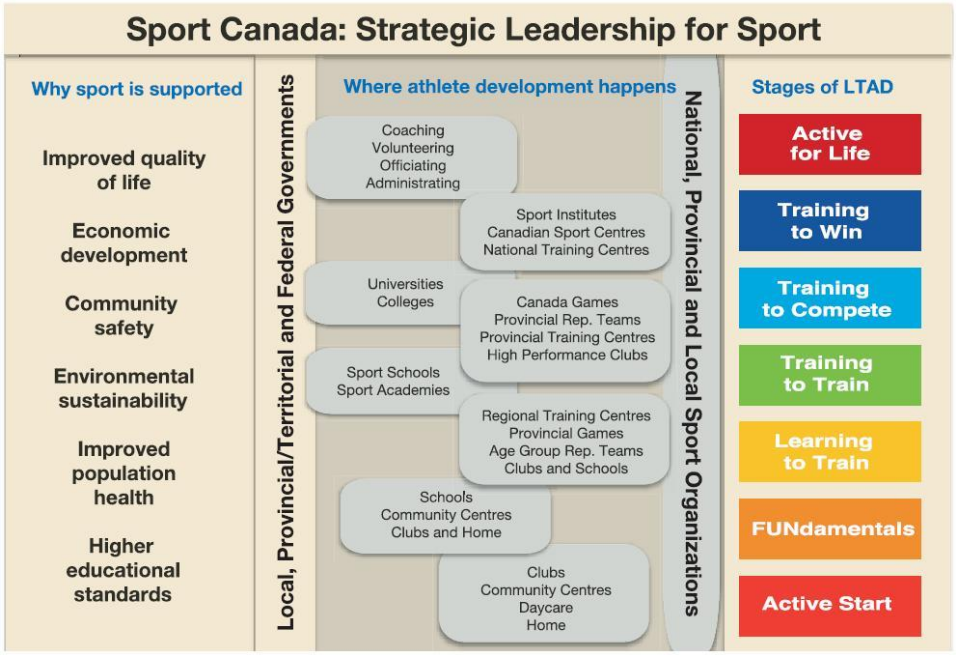


Figure 2 Sport Canada: Strategic Leadership for Sport (Sport Canada, 2012)

These groups serve either individual sports (single sport organizations), or cater to numerous sports sharing common needs (multi-sport service organization) (Sport Canada, 2012). Canada Basketball would be an example of the former, while the Coaching Association of Canada and the Canadian Wheelchair Sport Association are examples of

the latter. These organizations receive financial support from governments, based on the scope of their programs and services. For example, a local amateur basketball club may receive funds from the local municipality and participant fees, whereas the organization responsible for the national basketball team competing internationally would be eligible to receive federal government funding (Sport Canada, 2012). Single sport organizations are responsible for the specifics of the sport they represent, whereas multi-sport service organizations work with the sport organizations and provide support in several areas. This next section addressed the single sport organizations, beginning at the national level.

National Sport Organizations (NSOs)

NSOs in Canada began to emerge around the late 19th and early 20th centuries, and continued to function independently with the help of volunteer executive members until the 1970s (Kidd, 1996, 2013). Historically, NSOs were small, independent associations that organized national championships and enforced rules governing the membership and competitions of their sport.

In 1969, the Report of the Task Force on Sports for Canadians was released. This report identified a “sorry state” (Morrow & Wamsley, 2013) of the administrative and technical programs for sport in Canada and called for more accountability and improvement in function from the NSOs. This created a period of extreme growth in Canadian amateur sport.

As Macintosh, Bedecki, and Franks (1987) reported, the recommendations made by the task force subsequently gave the federal government more direct involvement and governance over the Canadian amateur sport system and specifically the development of uniform NSOs. This was believed to have been the beginning of the creation of Sport

Canada, which was officially formed in 1971 (Canadian Heritage, 2016). As of 2016, Sport Canada is a unit in the Department of Canadian Heritage, under the Government of Canada (Canadian Heritage, 2016). Sport Canada is responsible for directing NSOs toward federal government objectives by contributing funding for the salaries of full-time staff such as executive directors and technical directors (Sport Canada, 2012). Funding for these positions, however, was conditional upon NSOs relocating their national office to Ottawa, the home of Sport Canada. The offices were provided by the government to support this growth, and a network of support agencies were created. These support agencies include the Coaching Association of Canada (CAC), which provides technical support through the development and certification of coaches through the National Coaching Certification Program (NCCP), the Canada Games Council, established in 1967 to provide high level competitive opportunities for athletes progressing toward international competition, and the Athlete Assistance Program, established to assist athletes in covering the costs of training, travel, and education (Morrow & Wamsley, 2013).

Initially, there were many NSOs that resisted the pressures to relocate their offices. Eventually though, they began to see this as an opportunity for further growth and access to numerous resources (Morrow & Wamsley, 2013). As NSOs increasingly adopted the support agencies established by the federal government or its funded agencies, their legitimacy and ability to mobilize resources came to depend on maintaining congruence between their purpose, structure, and the institutional understanding of what NSOs should do and how they should do it (Kikulis, Slack, & Hinings, 1992). It has been suggested that throughout the 1970s and early 1980s, NSOs

continued to make gradual adjustments in their programs, structures, and services to improve and refine the delivery of amateur sport (Kikulis, Slack, & Hinings, 1992).

"Best Ever" introduced in 1983 by Sport Canada has been considered the first athlete development program in Canada. This program was introduced with the intention of increasing Canada's sport profile on the international stage; of interest was the desire to increase athlete performance in the 1988 Olympic Winter Games in Calgary (Macintosh & Whitson, 1990). Sport Canada believed that having an athlete development program would allow elite athletes the opportunity to focus solely on training for their sport. According to Kikulis, Slack, and Hinings, (1995), "The Best Ever program was designed to bring about what Tushman, Newman, and Romanelli (1986) called "a frame breaking change" in Canada's NSOs rather than support a continuation of the incremental changes that had occurred previously" (Kikulis, Slack & Hinings, 1995, p. 137). Frame breaking change was considered to involve simultaneous and sharp shifts in an organization's structure, strategy, and internal power relations (Kikulis, Slack & Hinings, 1995). Sport Canada indicated that the purpose of the program was "to review and develop activities and establish priorities for high performance sport development for the next quadrennial and establish procedures related to quadrennial plan integration, implementation and monitoring" (Thibault & Harvey, 2013, p. 137). Each of the sports involved in the program was required to prepare a five-year plan with the assistance of Sport Canada consultants. The plans were aimed at improving and upgrading various developmental facets of each of the sports, including competitions, coaching, facilities, training opportunities, athlete assistance, training centres, and administration (Macintosh & Whitson, 1990). At the time, this program differed from the regular athlete assistance

programs in that any money was turned over directly to the appropriate sport organizations for distribution to their specific priorities and requirements (Macintosh & Whitson, 1990).

In August 1984, Jacques LaPierre, announced that the "Best Ever" program was to be extended to the 1988 Summer Olympic Games (Macintosh, 1996). The Best Ever '88" program became an essential part of Canadian efforts to "show the flag" in Calgary at the 1988 Olympic Winter Games. Concurrently, Sport Canada initiated changes in the structure of the NSOs. With increased funding, NSOs were expected to move away from a mainly volunteer structure to a more professional structure with paid employees (Slack & Hinings, 1992). Macintosh and Whitson (1990) noted that this type of change meant that leaders of NSOs had to engage in a process of "bureaucratic rationalization involving a restructuring of lines of authority between professionals and volunteers ... the end result of which [was] clearly an organization that [would] be directed by professionals" (p. 33). Sport Canada officials believed that this was the best way to ensure that the nation created and supported athletes capable of winning medals in major international competitions (Macintosh & Whitson, 1990). In order to receive funding from Sport Canada, all NSOs on the Olympic program were required to adopt the Best Ever program. There was some concern that by complying with this program, that Sport Canada, as the principal funding source for NSOs, had the ability to apply coercive pressure to these organizations (Macintosh & Whitson, 1990). NSOs feared that Sport Canada might become too involved in the day to day operations such as: the staffing of certain functional roles and the operation of programs oriented toward high performance sport. There were also pressures for the increased control and conforming of the

operation of these organizations and the creation of an authority structure that would see decision making clearly in the hands of professional staff (Slack & Hinings, 1992). There was a resistance to these changes as the organizations switched from a primarily volunteer run program to one that was guided by policy. The ideas that were promoted by Sport Canada about the appropriate design for NSOs quickly became institutionalized in the environment of these organizations (Kikulis, Slack, & Hinings, 1992, Slack & Hinings, 1992). This created a situation where NSOs felt the need to demonstrate their importance to Sport Canada and felt the need to ensure the continuation of the funds they needed to operate.

Researchers who have examined this change process (Harvey & Proulx, 1988; Kidd, 1996, 2013; Kikulis, Slack, & Hinings, 1992; Macintosh, 1990; Slack & Hinings, 1992) have suggested that NSOs unquestioningly complied with the changes set out by Sport Canada. In many of these studies, NSOs appeared to be passive receptors of government policy initiatives and funding programs as a result of required funding. Sport Canada had the funds and therefore NSOs felt they had no choice but to comply. It is believed that change within the Canadian sport delivery system was not only a product of the institutional pressures on NSOs but also the interpretation of these pressures by key individuals within the organizations (Kikulis, 2000). NSOs currently also have the potential to obtain corporate financing through sponsorship agreements, and grants via the Canadian Olympic Committee, and to generate revenue themselves through other sources including, fund-raising and membership fees.

As has already been discussed, NSOs experienced external pressure imposed by the federal government which was invariably tied to funding. Additionally, NSOs might

have also experienced internal pressure by organizational members as they sought to advance and sustain their claim on their valued and scarce resources. It has been established in the previous pages that NSOs have experienced continued pressure for change from their external environment. The potential impact, perception, and reaction to those changes differ from one NSO to another. It is important to recognize that the variability will be reliant on the individuals within that organization.

NSOs' primary responsibility in Canada is to oversee the national teams and national competition for their particular sport. For the most part, NSOs are professionally-managed organizations with full-time staff. On their website Sport Canada recognized 61 NSOs (Sport Canada, 2012). Canadian NSO responsibilities are primarily related to national and international team administration. Each NSO must manage their high-performance programs and includes all aspects of management, coaching, hiring, team selection and administration (Canadian Heritage, 2016). NSOs also represent Canada and the sport's national interests to their specific International Sport Federation. They implement nation-wide initiatives to further develop and promote their sport. Additionally, the NSO establish policies that cover the actions of the NSO. Finally, NSOs provide professional development for coaches and officials. (Canadian Heritage, 2016).

Provincial/Territorial Sport Organizations (PSOs/TSOs)

In Canadian sport structure, Provincial and Territorial Sport Organizations (PSOs/TSOs) follow NSOs in the governance of a sport. PSOs/TSOs are self-directed and staffed, not-for-profit organizations responsible for the regulation of all areas and levels of their sport's participation within the province/territory and for the governance of the province/territory-wide development of the sport (Sport Canada, 2012). They work to

deliver the safe development of the sport within the province/territory. A PSO/TSO is the provincial/territorial voice on behalf of its members: clubs, affiliated recreation and education members, and provincial team athletes. This organization is usually the link between clubs (or other local sport organizations) and the National Sport Organization (NSO). The PSO/TSO have a listing of all clubs or associations in the Province/Territory in their sport.

Local Sport Organizations (LSOs)

The final level of sport organization in Canada is the Local Sport Organization (LSO). LSOs are typically a user-pay system, where an athlete buys a membership or registers into instructional courses. The LSO is usually a not-for-profit organization and can manage employees, apply for grants or perform other business functions such as coach hiring and training, fundraising, development of by-laws and constitutions, and decision making about the sport. This level of sport organization deals with sport in communities. It might include a municipal league, a community centre-based team/league/spot, not-for-profit clubs or teams. In all cases, the role of this organization is to provide structured coaching, officiating, training opportunities, and competition for athletes.

A local sport organization (LSO), along with schools are frequently an athlete's first entry into a sport and may provide different levels of programs ranging from beginner to advanced, child to seniors, recreational to high performance. Some sports rely on clubs or teams for high performance athletes and it is common that athletes below the national level continue training with their LSO.

Coach Education

The Coaching Association of Canada (CAC) is a not-for-profit amateur sport organization with a mandate to improve the effectiveness of coaching across all levels of the Canadian sport system (Coaching Association of Canada, 2017). The coach education programs offered through the CAC exist under the umbrella of the National Coaching Certification Program (NCCP), the recognized national standard for coach training and certification for 65 sports in Canada since 1974 (Coaching Association of Canada, 2017). NCCP workshops are designed to meet the needs of all levels of coaches, from the first-time coach to the head coach of a national team. Each year, more than 50,000 coaches take an NCCP workshop and, since it began, more than 900,000 coaches have participated in the program (Coaching Association of Canada, 2017).

Since its inception in 1970, the CAC has developed into a world leader in coach training and certification and NCCP workshops are a foundation for sport development in Canada (Coaching Association of Canada, 2017). Despite its worldwide recognition and use as a model for coach training in other countries, the CAC is continually monitoring the impact of the NCCP and updating its standards accordingly. These efforts contribute to the establishment of the NCCP as a successful "brand" (Gladden, & Milne, 1999) for coach education and certification. This is consistent with the recent trend in sport organizations towards establishing a positive brand image with the hope of increasing the perceived strength and value of the brand (i.e., brand equity) (Gladden, & Milne, 1999).

Based on a provincial survey conducted in 2000 by the Sport Alliance of Ontario (Sport Alliance of Ontario, 2000) approximately 18% of the individuals coaching at the community level in Ontario have taken an NCCP course.

Considering that a main purpose of sport organizations is the development of athletes, the next section of this dissertation examined athlete development.

Athlete Development

It has been well documented in the literature that to achieve expert status in any area, a long-term investment is required (Bloom, 1985; Ericsson, Krampe, & Tesch-Romer, 1993; Starkes, Deakin, Allard, Hodges, & Hayes, 1996). This has been recognized as quite an extensive venture requiring a great deal of planning, coordinating, and communication. In the past few decades, NSOs and sport councils in many countries for example, New Zealand, Great Britain, and Canada have identified the importance of expert requirement in sport and have therefore increased their creation of athlete development programs (Abbott, Collins, Martindale, & Sowerby, 2002). Historically for sport, this process has taken place at the National level (NSO) during the creation stages of athlete development programs.

Bruner, Erickson, Wilson, and Côté (2010) synthesized and evaluated the interconnectedness of the English-language literature that serve as the foundation for athlete developmental models in sport using a research synthesis approach to sport psychology known as citation network analysis. Essentially, they were trying to identify the most frequent citations and central ‘hubs’ that were consistently identified as factors in the athlete development model literature. They found through citation network analysis that there were prominent English-language models of athlete development. Their findings helped establish priority among sport organizations.

The first stage of their main path analysis (Bruner, Erickson, Wilson & Côté, 2010) contained what they considered the foundation texts. Published between 1973 and

1991, the five texts (Bloom, 1985; Gustin, 1985; Kalinowski, 1985; Monsaas, 1985; Sosniak, 1985) were found to be the foundation of the main path and were contained in Bloom's (1985) report of interviews with talented individuals in disciplines such as mathematics, art, science, and sport. The other four texts (Newell & Rosenbloom, 1981; Simon & Chase, 1973; Sloboda & Howe, 1991; Wallingford, 1975), at the foundation of the main path presented a more experimental approach to expertise development that included the work of Simon and Chase (1973) on expertise in chess. They also thought that an interesting feature of the nine texts that formed the basis of athlete development models was the emergence of two very different methodological approaches to talent development. Bloom's (1985) approach was qualitative and retrospectively described the entire life of talented individuals, taking into consideration the influence of family, peers, teachers, and coaches. The other four texts (Newell & Rosenbloom, 1981; Simon & Chase, 1973; Sloboda & Howe, 1991; Wallingford, 1975) focused on the information processing resources of human performance by highlighting cognitive mechanisms and the role of practice on perception and performance. The results of their study suggested that not all the identified models have received equal attention in the English-language sport psychology literature.

The citation analysis found the Developmental Model of Sport Participation (DMSP) (Côté, 1999) to be the "most prominent conceptualization in the literature, with an in-degree centrality score more than three times the next most cited model (Durand-Bush & Salmela, 2002) and the highest number of substantive citations" (Bruner, Erickson, Wilson, & Côté, 2010, p. 136). Bruner et al., (2010) concluded that by drawing attention to the historical and theoretical roots of the athlete development literature, they

would be better able to understand current models and identify fruitful avenues of future study. The next section reviewed this literature.

Talent Identification versus Athlete Development

One of the more contentious issues in long-term athlete development programs' literature is the talent identification versus athlete development debate (Ford, De Ste Croix, Lloyd, Meyers, Moosavi, Oliver, Till, & Williams, 2011; Vaeyens, Lenoir, Williams, & Philippaerts, 2008). Conceptions of talent development emphasize the importance of appropriate interactions between performers and their social environments (Csikszentmihalyi, Rathunde, & Whalen, 1993; Van Lieshout, & Heymans, 2000). Such performer-environment interactions implicate the study of athletes' personal characteristics and sport talent development systems. Consequently, in addition to early studies of athletes' personal characteristics and career transitions (Bloom, 1985; Côté, 1999; Durand-Bush, & Salmela, 2002; Gould, Dieffenbach, & Moffett, 2002), researchers began to examine sport talent development environments (Martindale, Collins, & Abraham, 2007; Martindale, Collins, & Daubney, 2005). A growing concern identified in this literature was that many countries setting up athlete development programs were doing so with the primary focus of identifying elite athletes.

Creating programs that identify and develop talented athletes for elite level competition has been a common and popular practice (Durand-Bush & Salmela, 2002). Durand-Bush and Salmela (2002) identified two models (Bloom, 1985 & Côté, 1999) that tracked athletes as they progressed to elite level sport. Alfermann and Stambulova (2007) found three athlete development models developed by Salmela, (1994), Stambulova, (1994), and Wylleman and Lavallee, (2004) in addition to the ones

identified by Durand-Bush and Salmela (2002). Similarly, to the previous review, Alfermann and Stambulova (2007) found that there was a talent identification and development focus. Additionally, the Talent Search scheme, introduced in 1994 in Australia, sought to identify and develop talented athletes and ready them for competition at the 2000 Sydney Olympic Games (Abbott, Collins, Martindale, & Sowerby, 2002).

There appeared to be a widespread rush to identify and select children into specific sports from an early age (Kozel, 1996; Martindale, Collins, & Daubney, 2005). The main issue identified in the literature was that the focus on identification of talent at an early stage was likely to result in sporadic development opportunities for individuals. For example, researchers suggested that the natural fluctuation of performance standards and development as children grow and experience different opportunities significantly influences selection and de-selection, especially where short-term success is valued (Durand-Bush & Salmela, 2002; Martindale, Collins, & Daubney, 2005). Additionally, Bloom (1985) found that the world's top 25 athletes in their field did not necessarily experience the same success at junior levels. In other words, the development of successful elite athletes may require a different development approach to produce high level performance at different age groups. Specifically, in this regard, Bloom (1985) presented a staged model of progression where, for individuals to move on successfully, they needed to have reached certain levels of skill, learning, attitude, or relationships but did not necessarily obtain overt levels of performance success at different age groups. The following quotation highlights the weak relationship that often exists between performance standards at different levels of development.

> Being good in one phase of the learning may not have a high relation to being good at a later phase, even though both phases are in the same talent field ... without the purposeful step by step talent development process, it is unlikely that even the individuals we studied (top world 25) would have reached the high levels of talent development reported. (Bloom, 1985, p. 532)

Bloom (1985) also reported that less than 10% of the now successful elite adults were thought to have been at an elite performance level by the age of 11 or 12. Thus, Bloom (1985) concluded that it was necessary to inform administrators of the need for athlete development models to move away from a focus on elite development. As a further implication, it is worth considering that if 90% of eventual world top 25 athletes do not necessarily excel at young ages, what chance is there of identifying the future elite level athletes and distinguishing them from other enthusiastic young athletes simply through early performance standards? These statistics questioned the appropriateness and the usefulness of focusing on and rewarding the explicit development of highly successful age-group athletes.

Additionally, Bloom (1985) identified the elite/talent development focus concern and reported that NSOs and sport councils made developing talent a priority in creating athlete development programs. Bloom (1985) identified that their mandate was to ensure that their athletes could develop into, and successfully perform at, the highest international level. Furthermore, Helsen, Starkes, and Van Wincel (1998) found that international ice hockey players, on average, did not reach their peak until their late twenties, highlighting that there is no rush to produce young star performers.

Unfortunately, many youngsters with no long-term potential will receive valuable opportunities at the expense of others. For example, in the German Tennis Federation (Deutscher Tennis Bund (DTB), 1992), children as young as six were selected from mini tournaments and given motor ability tests for development training. Additionally, the DTB mandated the need for 90% generic movement skills and 10% competition until the age of 12 (DTB, 1992). Throughout age levels, tournament performance appeared to be the key for gaining training opportunities, funding, and resources. The evidence suggested that early selection based only on performance leads to many with potential missing out on the necessary opportunities for development. Further, those who are selected early may also be at a disadvantage. While they may improve initially, early achievers may be prone to premature drop out through competitive pressure (Gould, Feltz, Horn, & Weiss, 1982; Moore, Collins, & Burwitz, 1998). Furthermore, those selected may miss crucial (long-term) development experiences (Bloom 1985; Côté & Hay, 2002) by focusing too much on performance instead of learning (Ericsson, 1998). Thus, even if they are successful at the junior levels, they may end up ill-prepared to make the important step to senior level and fail to make the transition (Moore, Collins, & Burwitz, 1998; Stafford, 2005).

Many talent identification and development programs throughout the world continue to use performance measures as a main indicator of talent at all levels; an approach already shown to be highly problematic and a major barrier to development (Abbott & Collins, 2002; Abbott et al., 2002; Ford et al., 2011; Martindale, Collins, & Daubney, 2005).

The characteristics of successful elite and developing athletes highlight the need to take a long-term view of talent identification and development. For example, the characteristics of effective performance are very different from those factors associated with the potential to develop and become successful (Abbott & Collins, 2002; Abbott et al., 2002; Bloom, 1985). Therefore, when trying to identify and trying to promote through development-focused programming, consideration needs to be based within a concept of talent that is defined as potential and not as current performance ability.

Expertise Development

Athlete development models based upon the talent development focus have their roots in the field of cognitive psychology, skill acquisition, and expertise in domains such as music, art, and chess (Bloom, 1985). Bloom suggested that athletes generally follow the same pattern of development to reach elite performance in sport, science, mathematics, music and art.

The literature in expertise in sport agrees that both genetics and the environment play a part in expertise development (Baker, Begats, Busch, Strauss, & Schorer, 2012), however, there is also a great deal of support surrounding the notion that expertise and skills associated with high level performance are improved and developed through training (Ericsson & Lehmann, 1996; Helsen, Starkes, & Hodges, 1998; Starkes, 2000). For example, Ward and Williams (2003) established that "elite" soccer players as young as eight had better skills due to extra opportunities rather than any genetic advantage. These potential opportunities in early training can mask those with true potential, especially if large discrepancies exist between these opportunities at early ages. Furthermore, due to the large amounts of change and progression made over a career,

high ability is often not apparent until later, again limiting the ability to identify talent at development stages (Bloom, 1985; Simonton, 1999).

Certain skills and knowledge are important for later performance success. Such skills do not become fully developed or explicitly apparent until later, although they can be trained and improved at early ages (Abertheny & Russell, 1987; Tenebaum, Sar-El, & Bar-Eli, 2000). Therefore, training that benefits long-term preparation (e.g., fundamental development, and non-domain specific deliberate play) would potentially not be as effective at producing short-term performance gains as intense sport-specific practice (Côté & Hay, 2002). Further support suggests that the determinants of performance do not continually characterize success through the age groups (Abbott & Easson, 2002; Regnier & Salmela, 1987). Skills that may be identified or promoted in development environments to achieve short-term success may become redundant a year later (Abbott & Easson, 2002). For example, fast skating and physical maturity may be critical to hockey success at the age of 12, but as athletes get older and size and strength factors balance out, mental factors such as decision making, play making, and anticipation become more important for later success.

Even with such an investment, explicit guidelines regarding how talent is identified and developed are difficult to find. Guidelines that are apparent, such as the work of Balyi and his colleagues (Balyi, & Hamilton, 2004; Balyi, Way, Norris, Cardinal, & Higgs, 2005), present some specific requirements of development (Stafford, 2005). However, how this process is achieved or why it is done in this manner rather than another receives significantly less attention and lacks empirical support (Ford et al., 2011).

It has been documented that there are certain skills that are important for performance at many different levels, such as certain perceptual and cognitive skills (Ward & Williams, 2003), so it would be appropriate to identify what critical skills are required and develop these in as many youngsters as possible. Similarly, there are many performance and physical development variations throughout development. Empirical evidence has uncovered the unstable nature of anthropometric measures such as height (Abbott & Collins, 2002) and general growth patterns (Ackland & Bloomfield, 1996), especially through adolescence. The implication is clear: "the identification of some positive characteristics in a pre-adolescent child ... does not guarantee that the characteristics will remain throughout the process of maturation toward the adult form" (Ackland & Bloomfield, 1996, p. 57).

Performance factors are also unstable due to factors such as maturation and training effects (Abbott & Collins, 2002; Ward & Williams, 2003). Furthermore, Simonton's (1999) model of talent development highlights talent as multidimensional, whereby many factors can contribute to the existence of talent within any domain. Talent and its development is dynamic and over time "infancy, adolescence and even adulthood will see the latent components undergoing various transformations" (Simonton, 1999, p. 442). In other words, talent will develop and change over time in both adaptive and maladaptive ways, depending on certain innate and environmental factors. It seems clear that to provide young athletes with the best chance of realizing their potential in the longer term, development programs must focus on habits and skills that will be effective at later stages, together with those which enhance a youngster's ability to learn, develop, and progress successfully into the future. Ideally, such programs will de-emphasize

identification and selection and stress appropriate development, while avoiding common mistakes such as the overemphasis on factors solely associated with specific early specialization success.

Having completed an exhaustive literature review, Martindale, Collins, and Abraham (2005) proposed a model for the creation of effective development environments. This model was comprised of four main components: long-term aims and methods, wide ranging coherent messages and support, emphasis on appropriate development rather than early success, and individualized and ongoing development. Long-term aims and methods were characterized by the idea that NSOs need to create a long-term vision and purpose for the development of their athletes, implement this vision systematically, and reinforce the system at all levels within an organization. Wide ranging coherent messages and support meant that information received by stakeholders should be consistent and point in the same direction for long-term athlete development. Martindale et al. (2005) also suggested there should be open communication between parties involved and a variety of support networks for the athletes. Emphasis on appropriate development rather than early success reflected the idea that an athlete's performance should be separated from an athlete's potential. This can be accomplished by using a stage-specific talent development approach including fundamental mental skills, fundamental physical skills, sport-specific skills, and teaching an athlete how to balance sport with life responsibilities (Martindale et al., 2005). Finally, they suggested that talent development should be individualized and ongoing. In this case, the sport system should allow for individual variations and provide goals to help individuals develop at their own pace.

Following up their 2005 study, Martindale, Collins, and Abraham, (2007) interviewed 16 elite development coaches from the UK in search of support for their talent development model. They found that an integrated stage system was deemed as important and necessary by all participants. However, there was a lack of coherence between levels of sport. For instance, there was not a consistent use of philosophies and methods at the club, school, academy, and national program levels. Also missing was a stage where fun and fundamental skills were taught to the athletes. One conclusion of their research was the need for a system to help athletes who were late developers. These findings indicated there was a gap between talent development research and talent development systems currently in place. However, a reported limitation of Martindale et al. (2007) study was that coaches from multiple sports were recruited, which restricted the in-depth analysis of specific-sport talent development systems. Hence, further evaluation of talent development systems for specific sports was required.

Deliberate Practice

Based on Bloom's (1985) work, Ericsson and colleagues (Ericsson, 1998; Ericsson, Krampe, & Tesch-Romer, 1993; Ericsson & Lehmann, 1996) used an expert performance approach, to demonstrate that expert performance in music, chess, sport, and other domains should be viewed as extended deliberate practice, rather than reflecting innate talents. This approach was first used by Chase and Simon (1973). The idea of extended deliberate practice as a reason for elite level development in sport has since generated a great deal of interest and research (Deakin & Cobley, 2003; Helsen, Starkes, & Hodges, 1998; Starkes, Deakin, Allard, Hodges, & Hayes, 1996). According to the deliberate practice framework, the way to reach high levels of expertise is to carry out

practice that is consciously intended to improve one's skills. Deliberate practice involves goal-directed activities, which tend to be repetitive and to enable rapid feedback. Preferably performed individually, these activities tend to be effortful and not necessarily enjoyable (Ericsson, Krampe, & Tesch-Romer, 1993). They can be carried out just for a few hours a day (but not so often that they become inefficient or hurtful). As a result of this research, athlete development models began to include deliberate practice as one of the critical pieces in pursuit of elite level sports. Further research (Baker, Abernethy, & Côté, 2003; Carlson, 1988; Orlick & Partington, 1988; Soberlak & Côté, 2003), which has examined more specifically athletes' experience in performance or continued participation in sport identified additional key elements of talent development (e.g., deliberate play, early diversification, role of parents, peers) (Abbott & Collins, 2004; Bailey & Morley, 2006; Côté, 1999; Durand-Bush & Salmela, 2002; Morgan & Giacobbi, 2006).

Youth Athlete Development

In creating the best possible athlete development programs, it is necessary to recognize that there are many factors affecting young athletes as they develop within their sport careers and lives. In addition to talent identification and talent development, athletes also need to contend with many other factors including the coaching process, funding, resources, evaluation, and coach reward, competition, and club structure to name a few.

Gould et al. (2002) investigated the development of Olympic champions. They found that there was a wide range of long-term individual and institutional influences that may significantly influence an athlete's development. These do not have to be limited to

their sport environment and can in some cases reach far beyond the individual athlete's sport context. Specifically, these included "the community, family, non-sport personnel, the individual himself or herself, sport environment/personnel, and the sport process" (pg. 199).

Csikszentmihalyi, Whalen, Wong, and Rathunde (1993) concluded that development will not occur unless the talent is valued by society and recognized and nurtured by parents, teachers, and coaches. With all levels of athletes, key factors associated with training commitment such as self-motivation, reinforcement skills, perceived control, outcome expectancies, and group norms can be directly influenced by external sources (Palmer, Burwitz, Smith, & Collins, 1999). This has been consistent since Erikson's work in the 1960s with the influence of adults in a young person's life. Support systems influence are quite critical in all aspects of a young athlete's life.

Research, has indicated that even with long-term objectives, if rewards and assessment are not compatible with the long-term aims of learning, people will pursue what they perceive to be important (Entwistle & Kozeki, 1985). Especially with younger, less informed and focused individuals, these are often the choices that offer immediate gratification, which could then lead to a counterproductive situation with long-term development. Other factors influencing the patterns of learning adopted include emotions, school ethos, and parental involvement (Entwistle, 1987).

The message is clear; it is crucial for development policies to encourage careful planning that highlights the need to carefully consider a wide range of factors. Indeed, in a similar fashion, adults delivering sport programs must be encouraged to develop athletes for long-term success through a coherent system at several levels, where

reinforcement is both clear and consistent. For example, it would be counterproductive to provide funding and recognition to athletes deemed successful through winning without referral to long-term development achievements.

Creating the Best Possible Athlete Programs

Based on the literature, it is imperative that athletic environments are strategic in design to deliver the most successful programs. Research suggested that organizations must first arrange themselves with what they believe are appropriate attitudes and behaviours (Smircich, 1983). Additionally, it is thought that this can be achieved through the development of a common identity and commitment that guides individual and group goals, reflects appropriate conduct and performance standards, and is reinforced consistently (Ashforth & Mael, 1996). These programs should also provide and promote a social group stability that encourages a positive and reinforcing environment. With continuous opportunities to review the programs' goals, objectives, mandates, and accountability (Martindale, Collins, & Daubney, 2005). If care is not considered in the development of long-term athlete plans, a situation could easily arise wherein the need for elite level selection and funding opportunities based on early performance criteria undermines the goals and expectations of long-term development plans and lifelong physical activity participation. For example, many coaches' (as well as athletes' and parents') expectations, motivation, and understanding are created by previous experience or knowledge regarding rewards for producing "winning" athletes.

Ollis, MacPherson, and Collins (2006) identified that a successful program provides a philosophy that can recognize and incorporate the following: drives the aims and practices of talent identification and development, the coaching process, funding,

resources, evaluation, coach reward, competition, and club structure. They also suggested that these programs would benefit greatly from systematic "deliberate experiences" (Ollis, MacPherson, & Collins, 2006, p. 195). This concept was also considered by Côté and Hay (2002) who suggested that engagement in playful and varied non-domain specific activities are valuable at early stages of development, and late specialization between the ages of 13–17 years old to be an important predictor of the quality of later skill development. Additionally, long-term development of expertise incorporates many more issues than just the ability to learn to perform successfully. For example, issues of motivation and long-term adherence (Deci & Ryan, 1985), perceived competence (Sternberg, 2000), the importance of fundamental cognitive and motor skills (Beamer, Côté, & Ericsson, 1999; Ericsson, 2003), and access to the necessary opportunities (Bloom, 1985) have all been noted as being critical in the development of an athlete. Coherent and consistent deliberate practice appears to be the best way to build effectively toward aims, long-term aims in this case.

As was reported by Bruner et al. (2010), there are two very distinctive ways to approach athlete development programs, one being talent identification and the other transition following a competitive career. Athlete development programs need to address the entire career of any level of athlete. It is apparent that development is extremely individualized and in turn, for effective practice, individuals must be treated as such. Rowley (1992) has suggested that transitions, or periods of change, in an athlete's life are key considerations for future development; and that during "sensitive" periods, young athletes may be more vulnerable to dropping out of sport or retiring early (Rowley, 1992). In fact, the variety of support available and the range of mental skills utilized by

an individual is likely to determine how beneficial a transition may be; indeed, different or additional attributes and skills may be required. This development could be the key to successful progression (Abbott et al., 2002; Sinclair & Orlick, 1993). Due to the dynamic and individualized nature of development, it is imperative that youth are treated as individuals, and their needs are individually met as often as possible. The effectiveness of such teaching and educational approaches is well documented (Balyi, 2001; Balyi, Way, & Higgs, 2013; Ysseldyke & Christenson, 1987).

Coaching environments perhaps offer even more opportunities for individualization, particularly in a professional setup. Previous studies have identified the importance of individual attention to the eventual development of high-level talent (Bloom, 1985; Csikszentmihalyi et al., 1993; Gould et al., 2002). Regular psychological skills training and review systems, in conjunction with informal and formal opportunities to communicate, are one method of ensuring individual contact. Furthermore, the individualized nature of many behaviour change interventions supports the importance of individualized practice, especially when combined with contingent reinforcement strategies (Siedentop, 1978).

Bruner et al. (2010) acknowledged that motivation, social influences, and psychological variables were also important considerations in the development of athlete development programs. They identified the importance of continuing to advocate the importance of practice in athlete development but also highlighting the potential drawbacks of deliberate practice at a young age (Baker, 2003). They acknowledged the view of athlete development that includes both psychosocial and training aspects of expertise (Abbott & Collins, 2004; Martindale, Collins, & Abraham, 2007; Martindale,

Collins, & Daubney, 2005). They also suggested the work of Baker (2003) as being a critical 'bridging text' to integrate the stream of deliberate practice literature and the psychosocial influences proposed by Côté (1999) in the field of talent development. This suggests that when developing these programs, inclusion of these factors is critical.

Wylleman and Lavallee (2004) suggested the creation of athlete development models "such as the one by integrating the influential transition work of Schlossberg (1981)" (p. 33), would become future "bridging texts" along the main path much like the work of Baker (2003) in the integration of deliberate practice and psychosocial influences in athlete development. Their future directions clarify what the expectations in athlete development programs should be. Firstly, Bruner et al. (2010) suggested further research is required in understanding the concept of athlete development. More notable to the present study is their recommendation around the need for empirical evidence regarding athlete development programs. "Minimal research has empirically tested the proposed complex models. The athlete development field in general is in need of more model testing" (Bruner et al., 2010, p. 199). Additionally, Bruner et al. (2010) suggested that future research should examine the youth athlete and the athletic environment relationship, considering developmental psychology research around developmental features of an activity setting "e.g., appropriate structure, supportive relationships, opportunities to belong, positive social norms, etc." (p. 199). Further, Bruner et al. (2010) postulated that an understanding of these features is viewed as paramount to achieving several desired developmental outcomes from the setting. These would include competence, confidence, character, connection, caring (Fraser-Thomas, Côté, & Deakin, 2008; Lerner, Fisher, & Weinberg, 2000).

Aligned with Bruner et al.'s research is a greater understanding of the key developmental constructs viewed as ideal outcomes of athlete development. Through such investigations, researchers would be better positioned to offer empirically-supported recommendations to sport organizations and government agencies. This would aid in the creation of athlete development models with a strong empirical foundation. Bruner et al. (2010) also point out that,

> "The lack of research in this area leads us to believe that not enough is known about effective development environments or how they may be optimized. It is recognized that people have different needs at different stages in their development and, as such, they often require different coaching environments as they progress. Based on this lack of pertinent research, the need for consideration and then optimization of the process of developing youngsters into elite senior athletes seems clear." (p. 200)

Bloom (1985), and Bruner et al. (2010) both reported a concern that athlete development programs were being created to exploit talent identification. There is some thought that these programs should focus on positive youth development through sport and activity. This would encourage lifelong physical activity development and nurturing. The potential influences for lasting impact on the development and eventual success of a talented athlete are documented by Gould, Dieffenbach, and Moffett, (2002).

The development of an explicit long-term vision, purpose, and identity with associated processes is required. However, the key message is that performance needs to be clearly separated from potential in both the requirements of identification and development priorities, and it is imperative that expectations, roles, and understanding

within each level of development are clear, transparent, and unambiguous to provide the required coherent promotion of long-term development throughout a sport system.

In conclusion, the above research has highlighted the need to prioritize long-term aims and methods more explicitly through a multitude of contexts throughout the whole lifespan of sport development plans.

Planned Environments

Côté and Salmela (1996) stipulated that organization for individual sport coaches involves the use of their knowledge in arranging the ideal plans for the team to train and compete, while considering other responsibilities such as working with staff members and the athletes' families, as well as dealing with athletes' personal concerns. Côté and Salmela (1996) alluded to the multitude of organizational tasks for which coaches are increasingly responsible. These included tasks such as, creating a vision, establishing a seasonal plan, selecting a team, setting goals, developing team cohesion, working with support staff, and attending to administrative matters. Whether in individual or team sports, organizational tasks are present before, during, and after the season and represent the foundation of the coaches' knowledge base. Moreover, a coach's ability to organize the season and to deal with organizational issues reveals much about his or her coaching and management skills. If a coach is organized, there will be a solid foundation from which to build a team. This should lead to more effective training sessions that, in turn, might improve the team's success at competitions.

Support for the value and importance of a coach's organizational skills can be found in two interview-based studies led by Gould and his colleagues (Greenleaf, Gould, & Dieffenbach, 200; Gould, Greenleaf, Lauer, & Chung, 1999). Based on their sample of

American Olympic coaches and their athletes, they found teams that met/exceeded performance expectations had coaches who had excellent time management skills and a detailed plan for performance that was not changed. Coaches from teams that failed to meet performance expectations attributed this to a lack of planning or failure to follow the plans. In some cases, the plans were implemented too late, which suggested the importance of having a vision from the beginning of the season so that the team has time to assimilate the plan. Other teams that failed to meet performance expectations mentioned that last-minute changes made by the coach likely affected an athlete's confidence. A similar finding emerged from Orlick and Partington (1988) in their study of Canadian Olympic athletes, whereby athletes attributed performance successes to coaches who had clear training plans and who did not make any last-minute changes to their plans. A fundamental element of a coaching plan is creating and selling their coaching vision.

Desjardins (1996) found that expert coaches began coaching their teams with a vision. This vision involved both the long-term goal of the program's growth and development and the short-term goal of what the coach believed each athlete or the entire team could achieve in any given season. Desjardins (1996) stated that once the vision was established, the expert coaches transformed this vision into a mission statement, a tangible written statement that gave the team direction for the upcoming year. The mission statement then influenced the seasonal plan, daily practices, training regimens, team selection, and goal setting. Desjardins (1996) also noted that expert coaches drew up a complete plan for the upcoming season, taking into consideration the mental,

physical, tactical, and technical aspects of training. In other words, a mission statement was not merely a target to aim for – it was the team's absolute reason for being.

Further evidence about the need for a solid vision can be found in a Canadian study on expert university basketball and volleyball coaches (Vallée & Bloom, 2005). The coaches in this study all took over unsuccessful programs, and, in a short time, turned the team into potential contenders with excellent reputations on and off the court. The authors found that it was important for the coaches to possess strong organizational and interpersonal skills, including a vision for the team (highlighting personal growth and development). Early on in their appointments, coaches worked at changing past philosophies, setting higher standards and goals, and leading the team in a new direction. Coaches also emphasized the importance of the athletes buying into the vision for the team to achieve success.

The deliberations at the Canadian Professional Coaches Association (CPCA) Coaches Forum and Coaching Association of Canada (CAC) Sport Leadership 2004 Conference provided evidence to suggest that the Canadian sport community, most notably coaches, viewed the pursuit of Olympic and Paralympic medals as desirable and beneficial, not only for those who win, but for the country as a whole[1]. Sport Canada argued that Canada's overall weak international performance was traceable to a development system that was eroded by the budget cuts of the 1990s and the resultant depletion of key human and financial resources (Robertson & Way, 2005). As funding

[1] The Canadian Professional Coaches Association (CPCA) and Coaches of Canada no longer exist. The activities of the CPCA/Coaches of Canada have been subsumed within the Coaching Association of Canada since April 1, 2014. See http://coach.ca/coaches-of-canada-amalgamation-faqs-p156478

was gradually restored, two main questions remained for Sport Canada (2012): 1) What was the most effective way to reach the athletes of tomorrow? and 2) How to create an environment where young people thrive, enjoy the sport experience, feed into the Olympic and Paralympic streams, and remain physically active for life? Sport Canada decided that a key piece of the puzzle was LTAD that had been developed and refined in British Columbia (Sport Canada, 2012).

Long-Term Athlete Development (LTAD)

An example of a planned Canadian athlete development model is LTAD. Canadian sport organizations receiving financial support from the federal government are required to have a sport-specific application of LTAD in place (Sport Canada, 2012).

In 1995, Balyi and Way developed a four-stage model called Long-Term Athlete Development (Balyi, Way, & Higgs, 2013). The original impetus of Balyi and Way's LTAD was to improve the quality of sport programs so all participants, including top athletes, could reach their potential. Developed in the 1990s by Istvan Balyi, the primary goal of LTAD was to ensure that children learn fundamental skills during their optimal physical development stages as this was critical for long-term athletic improvement (Balyi & Hamilton, 2004). When developing LTAD, Balyi assessed and suggested what he felt were key issues facing the sport systems in British Columbia and Canada and offered LTAD as a viable solution. Since then, Balyi has expanded on the original model and has worked closely with sport authorities in Australia, England, Ireland, New Zealand, and South Africa to implement LTAD throughout their sport systems.

Specific to Canada, Balyi and Way (Balyi, Way, & Higgs, 2005) developed LTAD to help enhance performance by internationally competitive Canadian athletes in

some sports and slow the declining rate of physical activity by Canadians (Ifedi, 2008). It has been reported that LTAD was partly created in reaction to the performances of Canada's 2004 Olympic team (Robertson & Way, 2011). The Canadian Olympic Committee reported that the emotions following the 2004 Games ranged from "exhilaration to depression — exhilaration over the 12 medals won, and depression because Canada slipped from 11th to 19th in country rankings" (Robertson & Way, 2011, p. 6). Robertson and Way (2011) reported that, following the 2004 Athens Olympic Games, many Canadians felt that there had been a drastic weakening of the Canadian sport system since 1996. Several weeks after the 2004 summer games, the Canadian Paralympic team won 72 medals and finished third in official medal standings. However, the Athens Games depleted the financial reserves of the Canadian Paralympic Committee, rendering the organization vulnerable (Robertson & Way, 2011). Writing in *Coaches Report*, CAC president John Bales and Canadian Sport Centre Calgary president Dale Henwood concluded,

> Canada's high performance sport system is simply not keeping pace with steadily improving competitors from a growing number of countries. What matters now is what we do about it. We face a simple choice: maintain the status quo and watch our performances continue to slide, or make major changes and create the conditions for high performance excellence. (2008, p. 6)

Given that assessment, it was timely to examine LTAD and assess its potential to advance the changes proposed by Bales and Henwood.

The root of LTAD concept in Canada lies in the 2002 release of the Canadian Sport Policy (CSP) by the Canadian Government. LTAD has since been considered to

guide and mold sport policy in Canada and that CSP and LTAD are connected and informed by one another (Sutcliffe Group, 2010). Interestingly however, in a document produced by the Sutcliffe Group for Sport Canada (2010), they claimed that one of the "most significant outcomes" of CSP (2002) is the development of the S4L model (Sutcliffe Group, 2010). Considering that the development of CSP first began in 2000 (Sport Canada, 2002a) and LTAD has been in development since the 1990s it would appear that LTAD received support and ultimately endorsement from Sport Canada (Sport Canada, 2012).

One of the concerns with CSP, and LTAD, and previously reported research was the focus on athletic excellence. "The need for LTAD arises in part from the declining international performances of Canadian athletes in some sports and the difficulty other sports are having in identifying and developing the next generation of internationally successful athletes" (Balyi, et. al., 2005, p. 16). Further Balyi et al. (2005) identified shortcomings and consequences in the Canadian sport system. The shortcomings that they identified are specific to skill and elite athlete development. The 2002 CSP's vision stated, "a dynamic and leading-edge sport environment that enables all Canadians to experience and enjoy involvement in sport to the extent of their abilities and interests and, for increasing numbers, to perform consistently and successfully at the highest competitive levels" (p. 1).

There has been criticism within various sport circles that LTAD was created to develop world class athletes and CSP would appear to support that criticism. (Martindale, Collins, & Abraham, 2007; Martindale, Collins, & Daubney, 2005; Ford et al., 2011).

This problem is not unique to Canada and appears to be a global wide-range issue among countries that have adopted LTAD (Ford et al., 2011).

Green (2007) discovered that one of the concerning aspects of sport policy is the focus on and use of resources for sport excellence. Green (2007) reviewed sport policy from the UK, Australia, and Canada. He found that there were indications that both Australian and Canadian federal governments had begun to reassess their respective policy priorities for sport, showing a strong interest in increasing elite performance at the international level. Additionally, in the UK, he uncovered that in the past decade the government has promoted a far more positive policy discourse, and allocated increasingly large amounts of public money for elite sport development. Further, Green reiterated the same concern that had been reported in the research conducted in this area. "Of concern in all three countries is that the inexorable pursuit of sporting excellence on the international stage is one in which broader social goals associated with sport become routinely subordinated to the production of performance" (2007, p. 1).

The language with which Ford et al. (2011) were concerned can be found in both CSP documents (Sport Canada, 2002a, 2002b; Sport Canada 2012). According to CSP, Enhanced Excellence is "The pool of talented athletes has expanded and Canadian athletes and teams are systematically achieving world class results at the highest levels of international competition through fair and ethical means" (Sport Canada, 2002a, p. 17). The focus on bettering Canada's international sport showing is not a new venture. As was presented earlier in this dissertation, the Canadian government began investing in sport in the 1960s in an effort to remedy Canada's poor showing in international competition and the low level of physical fitness among Canadians (Sport Canada, 2002a, p. 5).

Leaders of CSP and LTAD have both stated that their reason for creating the policy and model was to make the sport system more effective and inclusive (Sport Canada, 2002b, Canadian Sport Centres, 2005). The Canadian Government has also endorsed both CSP and LTAD with Federal and Provincial/Territorial Ministers approving both and agreeing that first CSP 2002 and CSP 2012 should be implemented across Canada, with the goal of increasing participation. Considering that both CSP and LTAD highlighted enhanced participation and active for life programming "Sport should encompass social and personal development, health and well-being, culture, education, economic development and prosperity, tourism and entertainment" (Sport Canada, 2002a, p. 13), how are Sport Canada and S4L working towards creating opportunities for Canadians to be active? In the 2002 CSP document, Enhanced Participation was interpreted as "a significantly higher proportion of Canadians from all segments of society are involved in quality sport activities at all levels and in all forms of participation" (Sport Canada, 2002 p. 17). In both CSP and CSP 2.0, it seemed that participation not only includes physical activity within a sport, but also the holistic development of individuals. This was highlighted in CSP through the inclusion of physical literacy, and sport for development (Sport Canada, 2012). In the most recent CSP, the following statement is made about the role of sport in Canadian society:

> Canadians from diverse backgrounds, sectors and communities sent a clear message that sport is an essential part of life in Canada. The accomplishments of our athletes give Canadians a source of pride, as does the vibrant sport practised in communities from coast to coast. Sport provides a means for personal and social development, as well as being an end in itself. (Sport Canada, 2012, p. 4)

Additionally, CSP stated that there should be a model which addresses the needs of the entire Canadian population (Sport Canada, 2012).

At one time, federal and provincial/territorial governments also identified enhanced capacity and enhanced interaction as objectives in CSP. These objectives still exist but they are no longer identified as objectives (Sport Canada, 2002a). Further, they also documented the notion that sport development depends on effectiveness of programs in a variety of sectors, schools, recreation, and health (Sport Canada, 2002a). However, in the 2002 document, Sport Canada believed that sport can also be valuable beyond the physical benefits.

> Sport is fun, sport pervades the lives of Canadians, and sport is an essential tool for building strong individuals and vibrant communities and for enhancing our collective pride and identity and sense of belonging. Through sport in their respective communities, Canadians learn to volunteer and to accept a sense of responsibility for a civil society. Sport is an important component of culture. We express ourselves and celebrate our communities through sport. We share stories, myths, and lessons derived from sport. Our languages are rich in the terminology of sport. Through sport we learn values and behaviours that we apply to all aspects of our society-hard work discipline, the value of fun, teamwork, respect for others, and fair play. (Sport Canada, 2002a, p. 5)

There has been a shift in the recent 2012 CSP in that there is recognition that participation in sport is necessary to benefit the health of Canadians. This was a result of the report/evaluation of the 2002 CSP by the Sutcliffe Group (2010). “Canada faces several challenges: obesity, physical inactivity and related health problems, an aging

population, and increased diversity of the Canadian population. Sport participation must reflect and accommodate Canada's changing demographics" (Sport Canada, 2012, p. 4). However there continues to be a focus on the need for excellence in sport "Canada will achieve the Policy's vision, further affirming Canada's role as a world leader in sport" (Sport Canada, 2012, p. 19).

Since 2005, Sport Canada has promoted LTAD to address decline and help in the development of elite athletes. Indeed, mid-way through the implementation of the 2002 Canadian Sport Policy, Sport Canada started to connect LTAD to the priorities of the policy document. Leaders of Sport Canada stated that LTAD was "one of the potentially most significant advances in Canadian sport since the adoption of Canadian Sport Policy in 2002" (Canadian Heritage, 2007, p. 3). The backbone of LTAD was built on the physiological principles of growth, development, and skill acquisition (Bompa, 1995; Ford et al., 2011; Stafford, 2005). Other models of athlete development, such as Côté's Developmental Model of Sport Participation, share similar principles, like avoidance of early specialization (Côté, Lidor, & Hackfort, 2009), but place strong emphasis on psychosocial maturation. The current Canadian LTAD has seven stages: active start, FUNdamentals, learning to train, training to train, training to compete, training to win, and active for life (Canadian Sport Centres, 2005, p.2.) The stages and movement between stages can be seen in LTAD framework depicted in Figure 3.

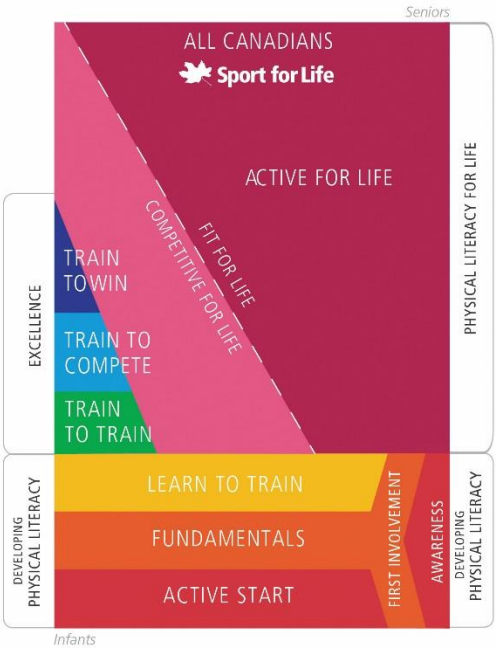


Figure 3 Long-Term Athlete Development Framework (LTAD) (Sport for Life, 2017)

LTAD was introduced as generic and sport-specific versions to coaches through coaching education programs in various countries. In Canada, national sport organizations (NSOs), and provincial/territorial sport organizations (PSOs/TSOs) developed sport-specific LTADs and resources to help already certified and new coaches understand the concept. The National Coaching Certification Program (NCCP) is Canada's largest contributor to coaches' knowledge of the model (Banack, Bloom, & Falcão, 2012; Canadian Sport Centres, 2005). Canada's LTAD was touted as the pathway for coaches to develop athletes and increase participation in physical activity (Canadian Sport Centres, 2005). The ultimate goal of LTAD was reported as ensuring children learn fundamental physical skills during their optimal physical development stages (Canadian Sport Centres, 2005).

The concept of LTAD is not without criticism. For example, Martindale et al. (2007) reviewed the general LTAD concept and compared some key issues with existing

sport science research. They raised some concerns about the scientific merit of the plan. For example, they argued that evidence for the notion of key 'windows of opportunity' was lacking. They suggested that although LTAD was presented in clear, simple stages, connections to infrastructure and pathways did not acknowledge or represent the complexity of the talent development process across different sports. They argued that some details presented in the model were not aligned with current research. For example, psychological development, something recognized as crucial to the development of the athlete, was only considered at late stages of the model (Martindale, 2007). Also, there was an emphasis on skill-based instruction with late introduction of tactical knowledge, contradictory to current thinking in games teaching pedagogy. Finally, he suggested that guidelines for the implementation of LTAD for specific sports were vague and unclear (Martindale, 2007). Further, researchers have concluded that LTAD has been used more as a planning tool than as a strict training program (Banack, Bloom, & Falcão, 2012, Beaudoin, Callary, & Trudel, 2012, Black & Holt, 2009, Ford et al., 2011,) and that it was being implemented differently across LSOs (Black & Holt, 2009).

Currently LTAD in Canada is guided and monitored by Sport for Life (S4L). They have maintained that LTAD is athlete-centred, coach-driven, and administration, sport science, and sponsor supported. S4L believed that athletes who progress through LTAD "experience training and competition in programs that consider their biological and training ages in creating periodized plans specific to their development needs" (Canadian Sport Centres, 2005, p. 7).

LTAD stages are meant to ensure that not only physical development takes place but so does physical literacy. Physical literacy is not a new concept to the pedagogy field,

but is a relatively new one to the sport field. A definition that has been used in the field for physical literacy originates from Margaret Whitehead, "Physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities (Whitehead, 2016, p.1)". Currently LTAD has adopted the following interpretation of physical literacy:

> Just as learning the alphabet is necessary to read, the development of fundamental movement skills and fundamental sport skills is critical if children are to feel good about physical activity. The ABCs - Agility, Balance, Coordination and Speed are the four skills that underpin physical literacy.
>
> Physical Literacy is the mastering of fundamental movement skills and fundamental sport skills that permit a child to read their environment and make appropriate decisions, allowing them to move confidently and with control in a wide range of physical activity situations. It supports long-term participation and performance to the best of one's ability. Physical Literacy is the cornerstone of both participation and excellence in physical activity and sport. Ideally, physical literacy is developed prior to the adolescent growth spurt. It has been adopted as the foundation of the Sport for Life concept in Canada. Children should learn fundamental movement skills and fundamental sport skills in each of the four following basic environments:
>
> 1. On the ground – as the basis for most games, sports, dance and physical activities.
> 2. In the water – as the basis for all aquatic activities.

3. On snow and ice – as the basis for all winter sliding activities.
4. In the air – as the basis for gymnastics, diving, and other aerial activities.

> Parents, caregivers, coaches, and teachers all play a role in the development of our children's physical literacy. If these people do not fulfill their roles, we will not succeed. (Sport for Life, 2012, p.1).

The belief was that excellence can be increased and physical literacy built in all children, from early childhood to late adolescence, by promoting quality daily physical activity in the schools and delivering a common approach to developing physical abilities through community recreation and elite sport programs (Canadian Sport Centres, 2005). S4L emphasized the need to involve all Canadians in LTAD, including athletes with a disability. Additionally, S4L reported that optimal training, competition, and recovery programs are provided throughout an athlete's career regardless of level or ability.

Both CSP and LTAD are positioned to have an impact on Canadian youth, provided they are designed with participation as a priority. If leaders of Sport Canada and provincial/territorial governments along with leaders the S4L were to invest greater resources on developing programs and support for youth, they would most likely see a greater increase in in active participation and a larger talent pool. An increase that would be beneficial to Canadians.

Long-Term Athlete Development and Canada Basketball

The Athlete Development Model (ADM). One sport-specific LTAD in Canadian sport is the Athlete Development Model (ADM) a development framework Canada Basketball developed and delivers. In 2003, Canada Basketball presented a strategic plan to Sport Canada. At the time, they proposed the development of a plan that would see

Canada as “A World Leader in Basketball” by 2020 (Canada Basketball, 2008, p. 1). At the foundation of this statement was the determination to lead a unified basketball community which would engage all members in quality experiences and drive international success. They also identified three priorities, first to unify the basketball community, second develop an enduring economic model, and third build a dynamic developmental infrastructure by improving a system based on principles, which encompass participation and excellence (Canada Basketball, 2008). Canada Basketball presented their strategic plan to the country in the fall of 2003.

The priorities were to: Unify the basketball community, develop an enduring economic model, build a dynamic developmental infrastructure by improving, and coaching at all levels by developing a system based on principles, which encompass participation and excellence. Shortly after the strategic plan Canada Basketball developed Athlete Development Model (ADM). The model was a basic athlete development framework. In 2005 when LTAD was introduced Canada Basketball took their model and redeveloped it using LTAD as the main framework. LTAD and ADM use similar vocabulary and ADM follows the same framework as LTAD. ADM had developed levels and training plans which are specific to basketball, yet kept the integrity of LTAD framework.

ADM is presented as a consistent framework from which coaches can work. It is a document that has been designed with the input of sport scientists and coaches from across the country. It is a long-term player/athlete development model that illustrates to coaches, parents, volunteers and administrators at the local, provincial and national levels, the importance of a systematic and consistent approach to the development of

athletes. It also recognizes the importance of participation in securing the health of the nation.

The model is to be used as a guide for coaches and administrators. This will assist them in understanding the importance of teaching particular aspects of the game to athletes at specific stages of development. It is hoped that with this systematic approach, skills and abilities needed to achieve excellence in basketball will be reachable. It will also ensure that all participants will receive the appropriate training that will produce well rounded people and maintain a lifelong passion for the sport. Canada Basketball's values, vision and mission directed the development of ADM/LTAD:

> Our Values: These are the core beliefs that guide our actions, policies and decision making: Purpose We are principled, focused and strategic in pursuing our vision. Excellence We are innovative, performance-driven and results oriented.
>
> Team We believe in the power of "team" on the court, in our communities and across the country. We take pride in representing Canada to the world.
>
> Our Vision
>
> Recognized as a world leader in all aspects of basketball, and consistently reaching the podium in FIBA competitions and the Olympic Games.
>
> Our Mission
>
> We aspire to excellence in leading the growth and development of the game at home, and in pursuing medal performances on the international stage. (Canada Basketball, 2016b, p. 1)

ADM (see Figure 4) is encouraged to be used as a guide for coaches and administrators. This should assist them in understanding the importance of teaching aspects of the game to athletes at specific stages of development. It is hoped that with this systematic approach, skills and abilities needed to achieve excellence in basketball would be reachable (Canada Basketball, 2008). It was important to Canada Basketball to try and ensure that all participants would receive the appropriate training that would produce well rounded people and maintain a lifelong passion for the sport. The delivery of an aligned, consistent, and systematic development system would help to ensure that everyone's needs are being met at every level of programming (Canada Basketball, 2008). Canada Basketball would like every participant in the game to see the pathways which would lead him or her to their own level of self-fulfillment. Proper application of ADM is meant to ensure that coaches are educated with respect to the needs of their players (Canada Basketball, 2008). The ability of the coach to teach these skills then becomes of paramount importance. Therefore, the development of the coach as a teacher must be the primary focus. They identify the need of coaches being supported with frequent clinics and other educational resources (Canada Basketball, 2008).

Canada Basketball's coaching education materials are available to coaches through Canada Basketball's Game Plan website which replaces the former Google drive, containing similar information that they provided to coaches. The coaching education materials specifically state that physical literacy needs to be a part of warm-up and early season training at all stages of LTAD. However, Canada Basketball also recognizes that the importance of these skills relative to aspects such as technical skills, strategy, and tactics is not the same at each stage. This is illustrated in Figure 4.

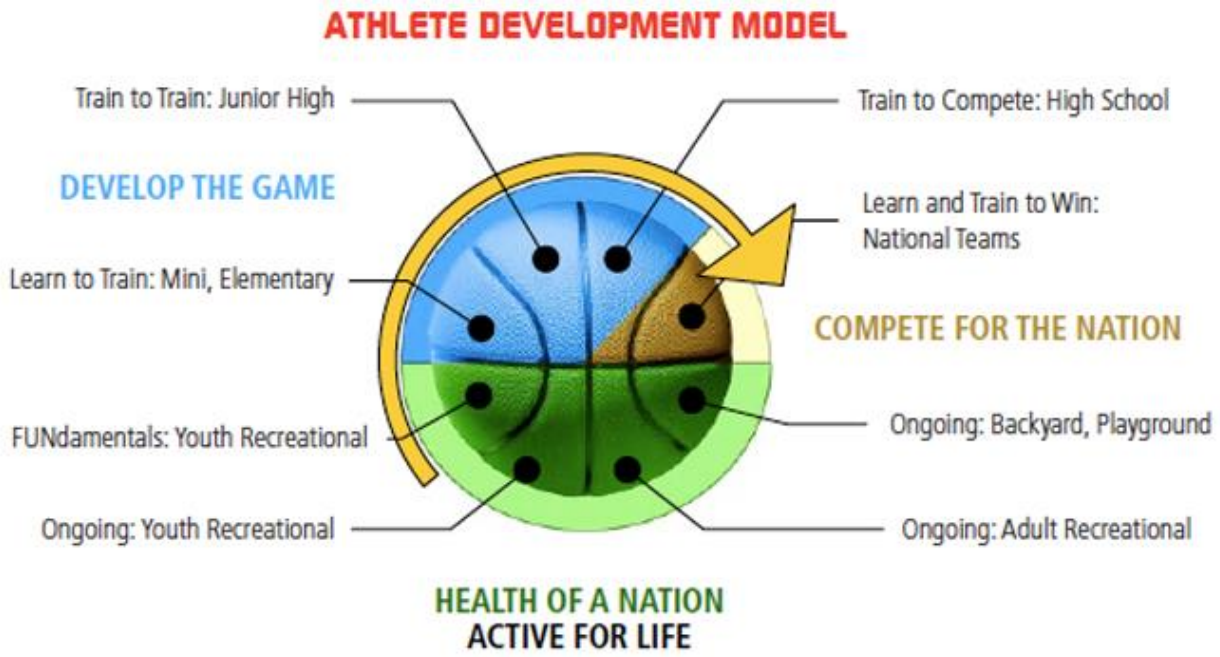


Figure 4 Canada Basketball Athlete Development Model (Canada Basketball, 2008)

Further Canada Basketball material suggested that coaching athletes in the FUNdamentals stage should focus almost entirely on physical literacy (Canada Basketball, 2008). Alternatively, when coaching athletes in the Train to Win stage, physical literacy should be balanced relatively equally with technical skills (e.g., change of direction dribble), strategy (e.g., a team's offensive game plan), and tactics (e.g., short-term adjustments) (Canada Basketball, 2008).

In a pilot study connected to this dissertation, Sullivan et al., (2010) concluded that knowledge of physical literacy has a place in coaching athletes at any age or stage of development. Additionally, it was determined that knowledge of physical literacy, and more importantly, of how to apply it when coaching, is imperative for coaches in all sports (Sullivan et al., 2010). Coaches must be aware of how these concepts complement

other knowledge (such as technique and strategy) for athletes in their sport. Further, it is essential to recognize how physical literacy and fundamental movement skills apply to athletes at all stages of development. Canada Basketball's incorporation of physical literacy content to its coaching drills at all stages of athlete development stands as a prototype for coaching sport. Also, because basketball incorporates so many fundamental movement skills (such as running, jumping, catching, and throwing), it could be the prototypical sport for the application of such knowledge on a systemic level.

ADM. It was hoped and encouraged by Canada Basketball that organizations and programs currently providing basketball services for athletes would use ADM to review their existing methods in the development of their athletes. At each level, especially the younger levels, there are several implementers in each local area. Canada Basketball emphasized that there must be very co-operative relationships at each stage and between stages for this model to be effective. This would mean that each local authority would be responsible for setting criteria for each age level.

> Additionally, each local authority would need to make a strong effort to educate coaches per the stage of the athletes they are coaching, and cater to the developmental age-specific needs of athletes. It must be recognized that not all participants wish to reach the highest levels; therefore, being ultra-structured and specific may turn some athletes off the sport. These athletes should be placed in less time consuming and intense environments than the athlete who wishes to compete at the highest level. Finally, Canada Basketball recognized that each local authority may not be able to deliver the information effectively (Canada Basketball, 2008).

Another very important part of Canada Basketball's implementation program was the declaration for the need of facilities. Leaders of the organization have recognized that there are too many games and too few practices. To meet this demand, Canada Basketball suggested that the basketball community must work together to find gymnasium times at affordable prices and become involved in lobbying to build more facilities. Finally, Canada Basketball stressed the importance of making sure that their programs are accessible for all athletes who might be interested in playing basketball. Identifying that basketball is traditionally a sport played by all cross sections of society, and that costs are constantly on the rise, some of the most promising athletes cannot afford proper training (Canada Basketball, 2008). This remains an issue for athletes as they decide which sports to play and one that must be seriously considered when organizing training programs.

Considering that Canada Basketball has had a version of their LTAD since 2003, it was felt that leaders of the organization would have a great deal of experience and knowledge of the model. This assisted in providing the richest data possible in the present study.

The Present Study

Like Canada, the United Kingdom also has adopted an LTAD. Both countries have seen widespread implementation of LTAD among various sports. However as presented previously in this dissertation, there is limited research in this area (Balyi & Hamilton, 2009; Black & Holt, 2009; Grange & Gordon, 2004 Lang & Light, 2010; Stafford, 2005; Sullivan et al., 2010).

The limited research on LTAD presents some major shortcomings and concerns regarding the implementation of LTAD in Canada and of similar programs around the

world. For example, Lang and Light (2010) investigated how the British Swimming Association adapted LTAD model to their program and how the model was interpreted and implemented by their coaches. These researchers found that coaches agreed with LTAD teaching technique at an early age as an essential building blocks for athlete development. However, participants showed concern with the program's over-emphasis on volume of practice at the expense of fun and technique development. In addition, coaches were critical of some competition rules which contradicted elements of LTAD, such as fast-tracking athletes for short-term podium results and forcing young players to compete in endurance-based events. Ford et al. (2011) shared similar concerns with LTAD used in Britain. They stated: "The LTAD model must be viewed as a work in progress and caution is urged to ensure that the model does not become too enshrined as fact" (2011, p. 10).

It has been the responsibility of Sport Canada, Sport for Life (S4L) and developers of LTAD to provide information, resources, and support to all members of the community. This support should encompass knowledge dissemination and application. At the time of data collection for the present study, NSOs and PSO/TSOs were responsible for providing the information, resources and support. Ford et al. (2011) asserted that Sport Canada and S4L need to be more proactive in implementing LTAD, especially where coaches are concerned. For example,

> A key rationale for this review is how the LTAD model is currently being understood and applied by coaches and practitioners it is the opinion of the authors that coaches should be better educated in how to interpret and use the

> information within the model, in light of its positive and negative issues. (Ford et al. 2011, p. 399)

Prior to the start of the present study it was not understood in Canada how administrators of PSOs/TSOs and NSOs, learning facilitators, and coaches were interpreting, understanding, and using LTAD. Considering that these individuals are responsible for delivering the program, it should be considered a priority of Sport Canada and S4L to understand their needs (Ford et al., 2011).

There seemed to be tremendous diversity between sport development systems, and the extent to which different sports can successfully deliver a centralized program. Although there are likely multiple reasons as to the creation of an LTAD across sports and countries, one common underpinning of the adoption of an LTAD seems to relate to funding. As was previously presented in this dissertation, federally-funded Canadian sport organizations are required to develop a sport-specific operationalization of their own LTAD. This funding issue explains the widespread adoption of the model in Canada, and it seems that NSOs in other countries (such as the UK) have faced similar requirements (Ford et al., 2011; Martindale et al., 2007).

While there is a lack of refereed research on Canada's LTAD as perceived by administrators, learning facilitators, coaches, there are three recent studies which have provided critical foundation for the present study. Black and Holt (2009) evaluated the perceptions of coaches and parents on the implementation of an LTAD-based competitive alpine ski program in Alberta. The purpose of their study was to evaluate coaches' and parents' perceptions of the implementation of the Husky Snow Stars (HSS) program at the local level. Using a multiple case-study approach, they chose four Alberta ski racing

clubs. Data were collected via interviews with 8 coaches and 18 parents of ski racers from these clubs. Their analysis revealed themes related to perceptions of: (a) LTAD and its available resources; and (b) assessment of racers' abilities. Results uncovered that LTAD-based program could allow coaches to: (1) have consistent language, (2) update their knowledge, and (3) more easily plan training sessions. Nonetheless, there were few positive comments from coaches, and parents had little knowledge of LTAD or its general principles. Their findings suggested that there was general support for the principle of a nationally-coordinated training program. Importantly and consistent with Martindale et al.'s (2007) findings in the UK, they suggested HSS was not implemented in a consistent manner across or even within the clubs studied. They expected some inconsistencies, but were surprised to find inconsistencies at LSOs within the same province. Additionally, they found some lack of coherence between the principles of the program and the ways in which it was implemented. Specifically, the guidelines for interpreting and delivering national level programs based on LTAD were not clear (Black & Holt, 2009).

In another study, Banack et al. (2012) sought to identify whether individuals who completed a coach education course acquired an understanding of LTAD and whether they integrated this knowledge into their coaching practice. Their secondary purpose was to identify information that could be used to improve the coach education program as well as the effectiveness of youth sport coaching in cross-country skiing. The coaches in Banack et al.'s (2012) study were primarily working with athletes in the Active Start stage of LTAD, which focused on participants having fun and gaining physical literacy. Their results indicated the course was an effective technique for delivering the core

principles of LTAD to coaches with little or no prior knowledge of LTAD. As well, coaches successfully integrated the principles of LTAD into their coaching practices. They felt that coaches were generally more positive about LTAD. Furthermore, Banack et al. (2012) found that introductory modules of the NCCP, such as the Introduction to Community Coaching (ICC) course, provided coaches with a basic understanding of LTAD. Although NSOs, PSOs/TSOs, and LSOs distribute a sport-specific LTAD and resources, the NCCP is the largest contributor to coaches' knowledge of the model.

As was previously indicated in this dissertation, coaches are a key component of athlete development because of their role in building the sport environment and their influence on athletes' growth and development. The NCCP was developed to distribute a standardized coaching curriculum, including coaching skills, training techniques, and coaching knowledge to as many coaches as possible (Trudel & Gilbert, 2006). Currently NCCP is a competency-based program that embodies many of the principles of LTAD. These include the stages starting with FUNdamentals and ending with Active for Life.

Beaudoin, Callary, and Trudel (2012) found that coaches implemented LTAD in two main ways: First, coaches used information from specific stages of LTAD. Second, some coaches used LTAD as a planning strategy because they saw it as an all-encompassing vision of how athletes should develop in sport. In each case, barriers acted as challenges for the coaches to implement LTAD fully and so the authors suggested that coaches, athletes, parents, and others involved in sport become more educated on using LTAD as a philosophy for athlete development "from cradle to grave" (Beaudoin, Callary, & Trudel, 2012, p. 3).

Banack et al. (2012), Beaudoin et al. (2012), and Black and Holt (2009) did not describe how the coaches' work environment influenced their adoption of LTAD. All three studies found that coaches had difficulty with the time commitment involved in learning about and disseminating information to parents regarding LTAD. Each club's coaches adopted the model in some capacity, and all three concluded that the adoption was more positive than negative.

Additionally, all three studies concluded that more research is needed in the following areas: assessment of the implementation of LTAD in various clubs, how coaches implement LTAD within their daily coaching practices, and the consistency of LTAD's implementation within Canada. Furthermore, research should assess how clubs evaluate the results of the model's implementation within their club structure.

Research examining the influence of a club's structure (e.g., membership, focus, and objectives) to coaches' adoption of LTAD model should continue in many different sports, including team and individual. Research in these areas should provide coaching science with a more complete understanding of the adoption and implementation of LTAD in Canada (Banack et al., 2012; Beaudoin et al., 2012; Black & Holt 2009).

Interestingly Banack et al. (2012) suggested that future research is required to identify the influence of the coach educator (learning facilitator) on coaches' perceptions of the material presented in the coaching course. The present study addressed these gaps in the literature by investigating administrators', learning facilitators', and coaches' perceptions of the benefits and challenges associated with using ADM.

Conclusion

The literature reviewed has provided an integrated understanding of the current and necessary components that are required for effective athlete development programs. This initial insight into the nature and contrast between current practice and theoretically-driven concepts of effective athlete development supports the need for research to investigate sport organizations' leaders' perceptions and experiences of development programs. A collection of data based on policy and insight into effective practice from both an administrator, learning facilitator, and coach perspective informs current practice in a powerful way, providing guidelines for development programs at a variety of levels. From a practical viewpoint, it has been highlighted that role guidance for many youth sport coaches is often implicit and therefore a theoretically-driven model of effective practice on which critical reflection can take place would be highly beneficial (Gilbert & Trudel, 2004a).

Long-term visions must systematically and explicitly drive the systems that influence athletes, coaches, parents, and society. The limited research on LTAD investigating administrators', learning facilitators', and coaches' perceptions of how their sport organizations adapted and implemented LTAD is a first step to understanding the impact of LTAD on sport organizations, sport coaches, and athletes, however more research is required to understand how coaches learn and apply the principles of LTAD.

Considering the gap in current literature and the need of empirical data regarding the implementation of the current LTAD and Canadian Sport Policy, the present study was designed to add to the literature with the purpose of evaluating administrators',

learning facilitators', and coaches' perceptions of the benefits and challenges associated with using ADM/LTAD in Canada Basketball.

Chapter 3

Methods

Purpose of the Present Study

For the goals of the present study, it was determined that it would be beneficial to examine an organization/sport that has been one of the first NSOs to have developed, and used documentation pertaining to LTAD. Considering that one of Canada Basketball's administrators was in the initial development discussions with Istvan Balyi and Richard Way and that Canada Basketball have had a continuous version of LTAD since 2003, Canada Basketball was chosen for this study.

The purpose of this study was to evaluate perceptions of the benefits and challenges associated with using ADM/LTAD in Canada Basketball among administrators', learning facilitators', and coaches'. This was accomplished by addressing the research question: How are administrators, learning facilitators, and coaches perceiving the benefits and challenges associated with using ADM/LTAD for basketball in Canada?

Qualitative Research and Case Study

Qualitative interviewing begins with the assumption that the perspective of others is meaningful, understood, and able to be made explicit. Researchers want to find out what is on an individual's mind and gather the stories surrounding an event or issue from the individual (Patton, 2002).

A case study is a holistic inquiry that investigates a contemporary phenomenon within its natural setting (Yin, 2009). The phenomenon can include but is not limited to: a program, an event, an activity, a problem, or an individual(s). The natural setting is the

context within which this phenomenon appears. Context is included because contextual conditions are considered highly pertinent to the phenomenon being studied either because many factors in the setting impact the phenomenon or because the separation between the phenomenon and the context is not clearly evident (Yin, 2009). The phenomenon and setting are a bound system; that is, there are limits on what is considered relevant or workable. The boundaries are set in terms of time, place, events, and processes. Holistic inquiry involves collection of in-depth and detailed data that are rich in content and involve multiple sources of information including direct observation, participant observations, interviews, audio-visual material, documents, reports and physical artifacts. The multiple sources of data provide the wide array of information needed to provide an in-depth picture. The present study specifically used interviews and documents for this in-depth picture.

The most commonly cited individuals in case study research are Yin (1994) and Stake (1998). Yin defined case study as follows: "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p. 13). "Case study is not a methodological choice, but rather a choice of object to be studied...case study is defined by interest in individual cases, not by the method of inquiry used" (Stake, 1998, p. 13).

In addition to Yin and Stake, other researchers have recognized the importance of case study work in research (Eisenhardt & Graebner, 2007, Fitzgerald & Dopson, 2009). It has been stated that case studies can play a significant role in theory building and provide one of the best bridges "to rich, qualitative evidence to mainstream research"

(Eisenhardt & Graebner, 2007, p. 25). Fitzgerald and Dopson (2009) further state that there is a need to design high quality studies that will be able to highlight the important contributions that case study projects can provide to the realm of research. To this end, the case study used in the present study followed the Yin approach to provide further evidence of how a case study can be beneficial in understanding the benefits and challenges associated with using ADM/LTAD.

Case studies can be either a single or a multiple case design. There are two types of single case study: the intrinsic and the instrumental. The intrinsic case study is undertaken to learn about a unique phenomenon. The researcher needs to be able to define the uniqueness of this phenomenon which distinguishes it from all others; possibly based on a collection of features or the sequence of events. The instrumental case study is undertaken to provide a general understanding of a phenomenon using a particular case. The case chosen can be a typical case although an unusual case may help illustrate matters overlooked in a typical case because they are subtler there. Thus, a good instrumental case does not depend on the researcher being able to defend its typicality though the researcher needs to provide a rationale for using a particular case (Denzin & Lincoln, 2005).

Critique of Case Study Approach

Case study methodology has been scrutinized in qualitative inquiry as being not clearly defined and appears to be randomly referred to as a methodology, method, or research design and the unit of analysis is unclear (VanWynsberghe & Khan, 2007). The discrepancies that appear in the literature according to VanWynsberghe and Khan (2007) relate to the way that the case study approach has been referred to in the literature.

Referring to a case study as a "method" would mean that it is a technique, procedure, or means for gathering data (VanWynsberghe & Khan, 2007). However, a "research method" or "research technique" includes procedures such as interviews, surveys, observations, and document analyses. As such, case study is not a method but rather an approach which guides the researcher to understand the phenomena of interest within the specific parameters of the research question of interest.

One of the main limitations and criticisms that has been brought forward about the use of case study methodology is that it focuses on single cases and thus the transferability or generalization can be limited (Amaratunga, & Baldry, 2001; Flyvbjerg, 2006; George, & Bennett, 2005). However, this point has been refuted by researchers in case study research (Lincoln & Guba, 1985; Stake, 1995, Thomas, 2015, Yin, 2013) stating that transferability is not the goal or aspiration of case study research given the contextual nature of the research. The generalization of the information comes, more so from a focus on analytic transferability where the researcher compares findings with prior knowledge, experience, cases, and theories to determine the transferability of the information collected. This level of methodological rigour was incorporated into the present study through the overall design of case study approach. Canada Basketball was the case and 12 interviews were analyzed separately, and then compared across the other interviews. This allowed me to identify points of similarity and difference between the interviews which assisted in understanding the level of analytical transferability of the results.

Given the issues and details discussed earlier in this dissertation, I chose to follow the definition and procedures of the case study approach put forth by Yin (1994, 2009,

2013). The rationale for this choice was strongly influenced by the research question and ideas for data collection which aligned with Yin. I felt that Yin's approach best suits the interests in analyzing the interviews individually but then being able to draw points of convergence and divergence which were related back to theory in multiple areas and was able to contribute to the understanding of the use of ADM/LTAD from the perspective of 12 individual interviews as they related to the case study (Canada Basketball). The present study followed an explanatory case study framework (Yin, 2011). This type of case study is used if you were seeking to answer a question that sought to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies.

Data Collection

Sampling and recruitment. After having obtained approval from Brock University's Research Ethics Board (see Appendix B), the administrators responsible for overseeing ADM/LTAD at Canada Basketball were contacted. The study was explained and a request was made to gain access to potential participants. Canada Basketball posted my contact information on their list serve, social media, and coaching boards. Interested administrators, learning facilitators, and coaches were instructed to contact me directly. In all, 16 individuals contacted me and, 12 of those individuals were available for interviews between October 2014 and January 2015.

Participants. As per the goal of obtaining multiple sources of evidence through various perspectives, a purposeful sampling approach (Patton, 1990) was taken to ensure that individuals who were interviewed were responsible for developing, administering, or using ADM/LTAD. I also had to ensure that I had an equal number of administrators,

learning facilitators, and coaches. The sample could also be considered convenient in that the participants who showed an interest in participating in the present study contacted me.

Administrator (A). NSOs in Canada have several responsibilities to their membership. These responsibilities are met through volunteer executives and employees at the NSO who also serve as administrators. The responsibilities of administrators include but are not limited to: governing all aspects of a sport within Canada, managing their high performance programs, managing budgets, selecting and managing their national teams, implementing national initiatives to develop and promote their sport, sanctioning national level competitions and tournaments, providing professional development for coaches and officials in their sports and proposing and supporting bids for international competitions in Canada. Additionally, volunteer executives are responsible for setting and managing goals, values and mission statements of the organization.

Learning Facilitator (LF). The Coaching Association of Canada with NSOs and PSOs/TSOs identify individuals they believe would make good Master Learning Facilitators (MLFs) and educate them. NSO's along with PSOs/TSOs will then identify individuals who they feel are good candidates to be an LF. LF's in Canada are educated by MLFs through modules developed by the NCCP.

As is the case with Canada Basketball each Province and Territory has a coaching representative who oversees, hires, and sets courses to educate learning facilitators in that region. The Coaching Association of Canada (CAC) (2016) discusses the role of the Learning Facilitator as:

> "Every NCCP workshop is led by a trained Learning Facilitator (LF) who has undergone a standardized training process. LFs are crucial to the development of skilled, knowledgeable coaches who are then able to develop safer, happier athletes/participants. The goal of an LF is to effectively facilitate sessions that result in the development of coaches who are able to demonstrate their abilities and meet the standards established for certification. An LF should have the appropriate knowledge, skills, and attitudes to facilitate workshops using the competency-based approach. In addition, they serve as contributing members of the community and ambassadors for the NCCP" (p. 1).

Coach. Per the International Council for Coaching Excellence (2012), coaches play a central role in promoting sport participation and enhancing the performance of athletes and teams. In accordance with internationally recognized and domestic sporting codes, coaches guide the participation of children, players and athletes (International Council for Coaching Excellence, 2012). In nearly 200 countries, millions of volunteer and paid coaches deliver an array of sport opportunities to hundreds of millions of participants (International Council for Coaching Excellence, 2012). In addition to their core role, coaches contribute to the development of athletes as people, teams as cohesive units and communities with a shared interest. Coaching also can contribute to social aims by promoting activity and health; coalescing citizens behind a common entity; and generating economic activity through employment, education, purchase of equipment, use of facilities and attendance at events (International Council for Coaching Excellence, 2012).

Interviews

Initially there was a review of ADM/LTAD created by Canada Basketball to assist in the development of the interview guides, and to familiarize myself with the documents the participants would be referring to. An example of ADM/LTAD can be found in Appendix A. As Bowen (2009) states "Like other analytical methods in qualitative research, document review requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge" (p. 27). According to Bowen (2009), document review includes "skimming (superficial examination), reading (thorough examination), and interpretation" (p. 32). Using a sport organization where its leaders have already invested time and resources into ADM/LTAD garnered rich data.

The present study was explained in detail to each participant and they were then asked if they would be willing to participate in a research interview. Everyone gave verbal permission via telephone, and a log kept with the date and time of their response (see Appendix C) for the verbal permission script and log). Initially the present study sought to obtain three coaches from each of the national, provincial and local/regional level who had experience with ADM/LTAD. The actual result was four participants who were currently or who had been national/international level coaches, seven who were currently provincial level coaches. There was one coach who identified as having coached at the local/regional level; however, national and provincial level coaches claimed they had also coached or were currently coaching local/regional level athletes. This cross section of data is consistent with Canada Basketball levels: national, provincial/territorial, and local.

It was proposed that within the data collection process, I would remain open to conducting as many interviews that would lead to data saturation, where no new insights were uncovered from the interviews (Strauss & Corbin, 1998). Following an initial analysis of the interview transcripts, it was found that the participants possessed a vast amount of experience and had very good knowledge of ADM/LTAD. Additionally, the participants represented national, provincial/territorial, and local/regional basketball in Canada. Thus, it was determined that the original participants and interviews would provide rich data and no new participants were required.

The participants of the present study were comprised of 12 individuals who identified as either an Administrator, Learning Facilitator, or Coach, or a combination of two or three, who were involved with Canada Basketball (see table 1). Participants identified as being an administrator/learning facilitator/coach, n=5, learning facilitator/coach, n=6, and coach, n=1 (see table 1). They ranged in age from 26 to 60 years old; one was female, and eleven were male. Participants were also asked where they were located, eight were from Ontario, two from Alberta, one from British Columbia, and one from Newfoundland. In terms of the level participants had coached, four participants identified as being national/international level coaches, seven identified as being provincial level coaches, and one coach identified as having coached at the local/regional level; however, both the national and provincial level coaches claimed they had also coached or were currently coaching local/regional level athletes. On average, participants had 12.5 years of experience.

The participants were each given a pseudonym and their position as either an administrator, learning facilitator, or coach, or a combination of all three (see table 1). This was done to maintain confidentiality of the participants.

	Participants	Current position	Location
1	Blake	Administrator/LF/Coach	Alberta
2	Nic	Administrator/LF/Coach	B.C.
3	Jamie	LF/Coach	Ontario
4	Chris	Administrator/LF/Coach	Ontario
5	Andy	Administrator/LF/Coach	Ontario
6	Val	LF/Coach	Alberta
7	Don	LF/Coach	Newfoundland
8	Jules	LF/Coach	Ontario
9	Mac	LF/Coach	Ontario
10	Quinn	Coach	Ontario
11	Brett	LF/Coach	Ontario
12	Alex	Administrator/LF/Coach	Ontario

Table 1- Participant List.

Individual interviews were the main data source for the present study. The interview guide for this study (see Appendix D) is based on a semi-structured, or as Yin (1994) refers to it, a focused interview outline. In a focused interview, the participants are interviewed for a short period, usually up to one hour. In this type of interview, the interview can remain open, where specific questions are asked but the questions are arranged in such a manner as to allow the participant to expand or add any other pertinent information. With this style of interviewing, the researcher and the participant carry on a conversation with no precise end, the researcher will continue with probing questions until he/she is satisfied with having enough information. The questions for the interview guide were developed based on the on the literature review and S4L and Canada Basketball ADM/LTAD documents and focused on (1) ADM/LTAD content within the documents, (2) individuals' understanding of that content, and (3) individual level of

comfort in applying it to their specific situation. It is important to note that I chose to use this only as a guide and not force responses to the questions. The semi-structured approach allowed the participants to discuss ideas, concepts and give examples about the use of ADM/LTAD. Considering that 11 of the 12 participants identified with multiple roles, participants were instructed before and sometimes during the interview to indicate which position perspective they were answering the questions. This allowed for clear understanding of roles and responses during the data analysis.

The interviews were all conducted over the telephone during a time that was convenient for both myself and the participant. Specifically, participants had use of their cell phone. This was helpful when coaches were on the road, or did not have access to a computer. One of the advantages of telephone interviewing was the extended access to participants. Telephone interviews provided me with a wide geographical access. Participants from all over Canada could be interviewed. It was important to have access to participants across Canada to represent Canada Basketball as much as possible. To have the same access face to face to the participants would have been too expensive, and the time required for data collection would have been increased due to the travel required. Another advantage to having the telephone interview in the participant's environment was the comfort of the participant. Participants can experience comfort having an interview in a place of their choice. Participants can sometimes experience a feeling of intimidation while in a face to face interviews (Mitchell, & Irvine, 2008), and they may open up more in their own environment while participating in an interview (Gill, Stewart, Treasure, & Chadwick, 2008).

One of the disadvantages of interviews being conducted by telephone is the reduction of social cues. (Mann & Stewart, 2000). The interviewer does not see the interviewee, so any social cue such as body language cannot be used as a source of extra information. But social cues as voice and intonation are still available. Although social cues are reduced, enough social cues remain for conducting a telephone interview without a problem (Mann & Stewart, 2000). Another disadvantage of interviews being conducted by telephone is that the researcher cannot ensure the interview environment. Face to face interviews permit a standardization of the interview environment, ensuring that all participants complete the interview in a similar manner.

Each interview lasted between 30-60 minutes. Prior to the beginning of each interview, the purpose of the present study was explained and participants were asked if they had any questions or did not understand something during the interview to let me know. They were then asked to provide verbal informed consent which reiterated the purpose of the present study and solicited permission to digitally record the audio of the session. Each interview was digitally audio recorded using Audacity (2015) version 2.1.2. This was done to ensure that precise transcripts were available for analysis. Due to most of the participants having more than one role in Canada Basketball I instructed participants during this step that they were to indicate for each question which position they were answering the question from. I also informed the participants that if they wanted to answer the same question from multiple roles they would just have to indicate so by saying “I will now answer the question as an administrator (learning facilitator, or coach)”. I did also ask participants after they answered a question if they would also like

to answer the question from their other role(s). Any time this happened it was recorded and indicated in the transcripts.

The first section of the interview (see Appendix E) was designed to create comfort for the participant by conducting it in an atmosphere where the participant felt comfortable enough to open and share their experiences more readily. This was accomplished by asking introduction questions like "do you remember how you first became involved in basketball? And what are some of the highlights of your basketball involvement (prior to coaching)?" Following this, was the section of the interview that would focus on ADM/LTAD. Probing took place whenever necessary to explore the intricacies of the participants' experiences. The probing was accomplished by asking the participant to give me more information or by expanding on something they discussed. The participants were told that there were no incorrect answers, the questions were only asked to elicit their experience and perception.

Additionally, at the time of the interview, I maintained comprehensive notes about the questions answered. This form of memo writing during the interview is characterized as the beginning stages of data analysis where the researcher can highlight major points that were discussed and record insights into the information while it is still new following the interview (Morse, Barrett, Mayan, Olson, & Spiers, 2002). All data collection was completed between October and December 2014. As outlined by many qualitative researchers, there is a flow of activities included in the qualitative analysis process which include data reduction, data display, and conclusion drawing/verification (Miles & Huberman, 1994). Given the complexity of the case study approach, it was important for me to have an analytical framework at the outset of the present study. Miles

and Huberman (1994), outline that various analytic techniques can be used to create a portrait of the evidence. Some of these techniques include putting information into different arrays, making a matrix of categories, and placing the evidence within such categories, and creating data displays. These techniques can assist the researcher in organizing the data in a way that makes sense. The key to this process is to ensure that the data are treated fairly and represented accurately to avoid biases and to produce compelling analytic conclusions (Yin, 1994).

Methodological Rigour

A common framework that is proposed by qualitative researchers to follow in regards to ensuring the rigour of their data is to examine the aspects of credibility, transferability, dependability, and confirmability of the data. As outlined in Denzin (1989), it was essential to examine the redundancy of the data (credibility) which is inherent in the design of a cross case comparison as it serves to help the reader understand the similarities and differences existing across the data, which is seen as a form of data triangulation (Patton, 2002), where an experienced qualitative researcher not affiliated with the study will read un-coded sections of transcripts and compare the themes that emerged from the original analysis. Discrepancies in data categorization were resolved by the researcher through consensus discussion, which allowed for deeper insight into the phenomenon under study (Patton, 1999). Transferability refers to whether findings can be transferred to another similar context or situation, while still preserving the meanings and inferences from the completed study (Leininger 1994).

The dependability of the data is considered on two levels with the first being the complete integration of my doctoral committee who were viewed as the “Skeptical Peer

Review", and asked difficult questions about the methods and interpretations of the data. This committee served to create an external check on the data (Devers, 1999). The second was ensuring that a clear audit trail of the data collection process was followed and accurately documented. Employing multiple data collection methods to study the same setting, issue, or programme increased the credibility of the findings by eliminating or reducing errors linked to the method.

Building a robust qualitative study design requires a credible link between the qualitative data and the qualitative findings. I was cognizant of searching for deviant cases in each of the individual interviews in the present study. These were not disregarded but highlighted as interesting cases that helped to extend reports of ADM/LTAD benefits and challenges. Further, I adopted Morse, Barrett, Mayan, Olson, and Spiers' (2002) approach to enhancing the methodological rigour for the present study. A problem suggested by Morse et al. (2002) is that most techniques used to validate qualitative research are used at the end of a study when it is too late to correct errors. Therefore, researchers should include 'checks' throughout the study to ensure the rigour of the research process itself. This ongoing approach to rigour was used in the present study.

Trustworthiness. All researchers strive to design and implement good/ethical and trustworthy studies. Indeed, qualitative researchers believe that if a study is credible, it must be sound ethically and be trustworthy. A sound case study is important and complete, utilizes alternative perspectives and sufficient evidence and is reported in an engaging manner (Yin, 2009).

Merriam (1998) described the strategy of ensuring rich description as "providing enough description to contextualize the study such that readers will be able to determine the extent to which their situation matches the research context" (p. 31). Thus, the prominence of Merriam's strategies in the study's methodology ensures the soundness/ethical practices and trustworthiness of this research.

One strategy, maximum variation, seeks broad experimentation of the sample size to allow for a greater range of application of the findings, which would naturally happen within this study, since all Canada Basketball administrators, learning facilitators and coaches were invited to take part in the interview process. For this study, I purposely and intentionally ensured the sample would include representation from administration, learning facilitation and coaching across Canada. This strategy, as defined by Merriam (1998), uses multiple sources of data collection methods to confirm findings. Therefore, the soundness/ethical nature of the research is ensured, and the credibility, confirmability, dependability, and transferability of this qualitative study is strengthened. Further, maximum variation demands the purposeful recruitment of diverse participants, "to allow for a greater range of application of the findings by consumers of the research" (Merriam, 1998, p. 31). Thus, recruiting Canada Basketball administrators, learning facilitators, and coaches allowed for diversity, the most notable of which is the substantial range in the ages, levels, and experience of the participants

Data Analysis. Per Yin (1994), to analyze a case study, it is important to follow a mode of analysis such as pattern matching, explanation building, or time-series analysis. Within the present study, explanation building was the focal analysis approach whose goal is to analyze the case study data by building an explanation about the case. This is

the high-level approach that guides the researcher as he/she begins to sort through the data. Using the constant comparison data analysis method (Corbin & Strauss, 2008; Glaser & Strauss, 1967) the researcher develops key themes through continually creating and assessing meaning units and comparing the data to examine the relationships between the themes. To this end, the individual interviews were examined to highlight the key themes and categories which were then compared across the case.

Qualitative research studies involve a continuous interplay between data collection and data analysis (Strauss & Corbin, 1998). For this reason, I began analyzing data following the first interview to begin identifying patterns, and to facilitate subsequent data collection (Strauss & Corbin, 1998). Qualitative analysis is a form of intellectual craftsmanship. There is no single way to accomplish qualitative research, since data analysis is a process of making meaning. It is a creative process, not a mechanical one (Denzin & Lincoln, 2000). Similarly, a qualitative study capitalizes on ordinary ways of making sense (Stake, 1995). Stake reminds qualitative researchers that, "there is no particular moment when data analysis begins. Analysis essentially means taking something apart" (Stake, 1995, p. 71), which in the present case study's case, not only meant understanding the ways participants interpreted, and used ADM/LTAD, but also identified and defined the patterns that emerged from that meaning-making process. Qualitative data analysis, then, gives meaning to first impressions and final compilations. It is an analysis that tells the story of participants' experiences with ADM/LTAD. Methodologically, Esterberg (2002) suggested, "getting intimate with data" (p. 157), and described the main objective of immersing oneself in interview transcripts to "load up your memory" with the collected data. I followed the data analysis and coding procedures

suggested by Creswell (2009) and Esterberg (2002). Specifically, Esterberg (2002) suggested that open coding is a process where "you work intensively with your data, line by line, identifying themes and categories that seem of interest" (p. 158).

Additionally, Creswell (2009) mandated the traditional approach in the social sciences that allows the codes to emerge during the data analysis (p. 187). Once the data from the present study were examined thoroughly through the open coding process, I reviewed the codes for emerging themes in the data. I followed Creswell's (2009) six steps during the data analysis process and, although these steps are described in linear order, Creswell described "an interactive practice" to analysis. That is, there is a recursive element to following these steps—the process is not simply a static, linear order of analysis. Step 1: Organize and prepare the data for analysis" (p. 185). During this step, I hired two external transcribers (to ensure the correct transcription of the interviews) to transcribe the digital files from interviews. Then I listened to the digital files and merged the two transcribed word files into one-word file to ensure accuracy. Participants were given the opportunity to review their transcripts. Participants were asked to make sure that what they read in the transcript was the answer(s) they wanted for each question. Step 2: Read through the data" (p. 185). This step also aligns with Esterberg's directive to "get to know your data." I reflected on the overall meaning to gain a general sense of the information and ideas conveyed by the participants. Step 3: Begin detailed analysis with the coding process (p. 186). I followed Creswell's procedure of organizing the material into segments by taking the text data and segmenting sentences into categories. I then labeled those categories with terms based on the actual language from the participants. Step 4: Use the coding process to generate a description of the setting or people as well as

categories for these for analysis. (p. 189). I used this process to generate codes for the descriptions, which then led to generalizing a small number of categories or themes. Then, I analyzed the themes that emerged and gathered the various cases into a general description for this bounded case. Step 5: Advance how the description of the themes will be represented in the qualitative narrative (p. 189). For this step, I wove the emerged themes into narrative passages, so that the findings were presented logically from the participants' responses. Step 6: Interpret the meaning of the data (p. 189). Creswell recognizes that a researcher's own background plays just as important a part of the meaning-making process as a researcher's fidelity to a theoretical lens. During my own interpretation process, my experience as an athlete, coach and sport administrator informed my understanding of the participants' stories. As well, to convey the participants' perceptions of their experiences accurately, I focused specifically on what they were saying, the conclusions they drew, and their intentions for future practice.

QDA Miner Lite (2015) is a mixed methods and qualitative data analysis software developed by Provalis Research. Although now a mixed methods analysis software, the program was initially designed to assist researchers in managing, coding, and analyzing qualitative data. For the present study, I used QDA Miner Lite V1.3 (2015) which was a free and easy-to-use version of QDA Miner (2015) computer assisted qualitative analysis software. It can be used for the analysis of textual data such as interview and news transcripts, open-ended responses, as well as for the analysis of still images. Additionally, features include the ability to import different formats of documents and images such as PDF, Word, Excel, HTML, RTF, SPSS files, and JPG. QDA Miner Lite (2015) can import data from many programs, such as Excel, Access, tab delimited files. The data-

importing process was user-friendly and efficient. QDA Miner Lite (2015) provided a cost-effective way to analyze the qualitative data in the present study. The "Text Retrieval" function enabled me to code data based on key words. The Coding Frequency analysis and the ability to export coded data were important benefits that aided in the analysis of the data. Specifically, I used the following features in my analysis: intuitive coding using codes organized in a tree structure, ability to add comments (or memos) to coded segments, cases or the whole project, and text search tool for retrieving and coding text segments.

The 12 participant interviews were transcribed verbatim and all identifying information removed by two transcribers hired by the researcher to produce 147 pages of single spaced text. The transcription files from the transcribers were merged into one document and then I listened to the interviews while reading the transcripts to ensure the accuracy of the transcriptions.

Member Checking. Following the transcription of the interview data, each interviewee was contacted via email and invited to review their interview transcript. Member checking is the process of determining "the accuracy of the qualitative findings through taking the final report or specific descriptions or themes back to the participants and determining whether these participants feel they are accurate" (Creswell, 2009, p. 191). All participants were sent a copy of their interview transcript and encouraged to review the document. The participants were asked if the interview transcript was an accurate representation of what was said and they were invited to make changes, corrections, and add any comments. Six participants responded; three transcripts returned from interviewees which had errors and were adjusted.

After all the transcripts were corrected, they were read a minimum of five times, and key words that were similar among the participants were identified. Bogdan and Biklen (2003) explained that this evolving process is a system used to find similarities among all the participants. As noted, once the key words were noted, the identification of sub-themes began. This resulted in themes that were developed from a global perspective based on the insights of participants. As themes were identified, similar instances or occurrences were aggregated.

As the data analysis progressed, my identification of key words and phrases were used to create the actual categories and properties. After determining the sub-themes, each one was coded with a random color. The next step was to double color code each of the properties beneath its corresponding category. The first color corresponded to the category under which the property was found, while the second color corresponded to an individual property.

Raw data themes were identified and built up into meaningful themes and sub-themes. After analyzing the data, themes and sub-themes were verified and checked. Subsequently, samples of these data sets were re- examined by the two transcribers recruited to assist with questioning and debate used to explore any issues of contention. There were no issues of contention, however there were a few questions which I answered. The two transcribers who also have experience in research were then asked to examine, and question, these themes to ensure corroboration. The first transcriber completed a Master of Arts in Sport Psychology. The second transcriber completed a Master of Arts in English Literature and works as a high school English teacher. Both transcribers had previous experience in qualitative research, using qualitative research in

their Master degrees, and had previously transcribed interviews. The transcribers were chosen based on their background and they were recommended by another qualitative doctoral student.

In all, 1,443 meaning units were highlighted from the 12 interview transcripts. Following data analysis, 28 sub-themes, and two major themes were identified: Benefits associated with using ADM/LTAD, and challenges associated with using ADM/LTAD. Interviewees contributed differing amounts of information to the two themes that comprise the narrative. Thus, all participants' voices and views are represented in this study. Each of these themes and the associated sub categories will be explored in greater detail in the next chapter.

Researcher Positionality. One important distinction between qualitative and quantitative research is the role the researcher plays in the process. The primary instrument for data collection and analysis in case study research is the researcher him/herself. As a researcher progresses through the research process, the researcher must acknowledge he or she is a human instrument and the primary research tool. As such, it is imperative for researchers to consider their own biases, limitations, and views—throughout data collection, analysis, interpretation, and the reporting phases of the process. Qualitative research assumes that the researcher's biases and values impact the outcome of any study (Merriam, 1998). However, Jansen and Peshkin (1992) argued that, "one's subjectivities could be seen as virtuous, for bias is the basis from which researchers make a distinctive contribution, one that results from the unique configuration of their personal qualities, and joined to the data they have collected" (p. 18).

To enable any audience of qualitative studies to evaluate the validity of conclusions extrapolated from data, researchers should, as part of the study, neutralize or bracket their biases by stating them explicitly to the full extent possible (Altheide & Johnson, 1994). For the present study, in the interest of full disclosure and of guarding against unethical or unintentional influences on how I interpreted which benefits and challenges Canada Basketball members identified in using ADM/LTAD, the following discussion outlines my personal experiences germane to this study. I have currently spent more than 20 years working in sport, including 17 years as a gymnastics coach (recreational to international), five years as a physical education instructor at a university, and four years as an administrator with an LSO, all of which have given me keen insight into sport, coaching and administration.

In addition to the professional experience, my personal background and upbringing may bias my methodological approach. I have spent my entire life, personally and professionally, immersed in many different sport experiences. In this context, I have been immersed in a culture that has fostered a love of sport.

Chapter 4

Results

The results from the interview data analysis are presented in this section. The purpose of this study was to evaluate the perceived benefits and challenges associated with the use of ADM/LTAD in Canada Basketball.

In this chapter, I presented the findings of the present study. These findings are based primarily on the analysis of interview transcripts and are supported by ADM/LTAD documents and notes made throughout each interview during the present study. As indicated in methods most of the participants had more than one role in Canada Basketball. I instructed participants during the interviews that they were to indicate for each question which position they were answering the question with. Any time this happened it was recorded and indicated in the transcripts. During data analysis, I ensured that the correct role and name were recorded for the correct participant and their quote. Findings were discussed in two parts that correspond with the major areas that emerged from the data. The first section presented the findings associated with benefits found while using ADM/LTAD. The second section focused on administrators', learning facilitators', and coaches' perceptions of the challenges found while using ADM/LTAD. Finally, I presented what the findings were in relation to the different roles interviewed in Canada Basketball. To that end, Chapter 5 presents the themes and categories that were uncovered in this study and recommendations for future practice and research.

The thematic content analysis of the interview data identified two main themes/trees connected to experiences of, and perceived benefits and challenges associated with the use of ADM/LTAD. These themes are discussed in turn. The

description can explain the inductive process from the second highest-level themes (trees) and progress to sub-themes (nodes) and finally quotations (meaning units). This progression permitted the retracing of information through the inductive process to the original starting point. It is important to note that the original inductive process was initiated with quotations (meaning units) pulled directly from the interview data that were then progressively placed in higher ordered sub-themes (nodes). Further, the inductive process ended at the theme (tree) level. In each section, the theme (tree) name and then sub-theme (node) are used for identification purposes. All themes and sub-themes have been included because they represent an important part to formulating the most complete picture of the perceptions of the participants. It should be noted that during data analysis there were themes, sub-themes, and meaning units which were constantly reviewed and altered to best represent the participants' interviews.

To provide contextual information to help the reader judge the findings of this study, I first highlighted some key information relating to the creation and development of ADM/LTAD. This information was based on numerous publications from Canada Basketball the NSO responsible for basketball in Canada and my knowledge of the program itself. ADM/LTAD was historically grounded in Balyi's original athlete development program, which was created in alpine ski racing. More specifically, Balyi used his work with the Canadian Men's Alpine Ski team through the 1988 to 1994 Olympic Winter Games as the basis for the model (Black & Holt, 2009). He originally proposed a system of double quadrennial periodization. In 1999, Balyi, through Alpine Canada Alpin, the NSO responsible for alpine skiing, published the Alpine Integration Model (AIM), which introduced a four-stage talent development program (Alpine

Canada Alpin, 1999). These stages were labeled FUNdamentals, train to train, train to compete, and train to win. The basic model has since been expanded into the current form of LTAD that provides a general framework across sports, including basketball (Balyi, 2001, Balyi & Hamilton, 2004).

Although some key concepts of the current ADM/LTAD have their origins in Balyi's ski racing program, Canada Basketball was required to 're-interpret' Sport Canada's LTAD and produce a new sport-specific plan. Consequently, Canada Basketball created the Athlete Development Model (ADM) document as Basketball's sport-specific interpretation of LTAD (Canada Basketball, 2008). The primary revision providing more information about the specifics for each of the developmental levels depicted in the current LTAD (see Appendix A). Consistent with LTAD, the goals of ADM are to increase success at the international level and support participants at all levels to reach their potential and to stay involved in the sport. ADM provides guidelines for clubs to use in the development of their programs at each stage of athlete development. Canada Basketball acknowledged that factors such as club size, personal philosophy, ages of club members, length of the season, and number of clubs in a region will vary and have implications for program implementation. Therefore, with the assistance of each Provincial/Territorial Sport Organization (PSO/TSO), local basketball clubs are responsible for specific elements of program implementation.

ADM is an educational resource designed to be the basketball-specific operationalization of the stages of the broader LTAD. It was introduced as the national program in 2003 by Canada Basketball. Clubs were expected to have incorporated ADM into their annual plan beginning with the 2004/05 season. The primary ADM resources

are online modules provided to coaches and parents. The coaches are also provided with videos and training plans. The modules are intended as a training resource for the coaches and athletes. There is also a parents' section on the website to assist with the parents' understanding of ADM. The modules describe each phase of LTAD. It also contains samples of progress reports which are assessed on seven levels of proficiency with a list of the benchmark tasks for each level.

The purpose of the present study was to examine administrators', learning facilitators', and coaches' perceived benefits and challenges associated with the use of ADM/LTAD within Canada Basketball. This was accomplished by addressing the research question: "What are the perceived benefits and challenges associated with using ADM\LTAD for basketball in Canada? While the themes are reported as being discrete, there is considerable overlap among them. Further, participants' responses to interview questions often addressed more than one theme. In those cases, the interview data are described where they appear to fit most logically.

Following data analysis, two major themes were identified: Benefits associated with using ADM/LTAD, and challenges associated with using ADM/LTAD. Each of these themes and the associated sub-themes will be explored in greater detail in the remainder of this chapter. Please see Figure 5 for the sub-themes associated with each theme.

Benefits

Participants indicated that there were benefits to ADM/LTAD. This theme is presented below.

Consistency. Participants identified one of the most important tools in an

effective ADM/LTAD was consistency. They felt that Canada Basketball leaders and coaches must be consistent every day in carrying out their duties if they want to see improvement in athlete performance and conduct. Participants believed that all members must follow through with what they say they will. There should be clear rules, policies, requirements and expectations for everyone. ADM/LTAD was perceived as good and benefit to basketball players (in theory) as coaches across the country were coaching from the same set of guidelines. A coach explained:

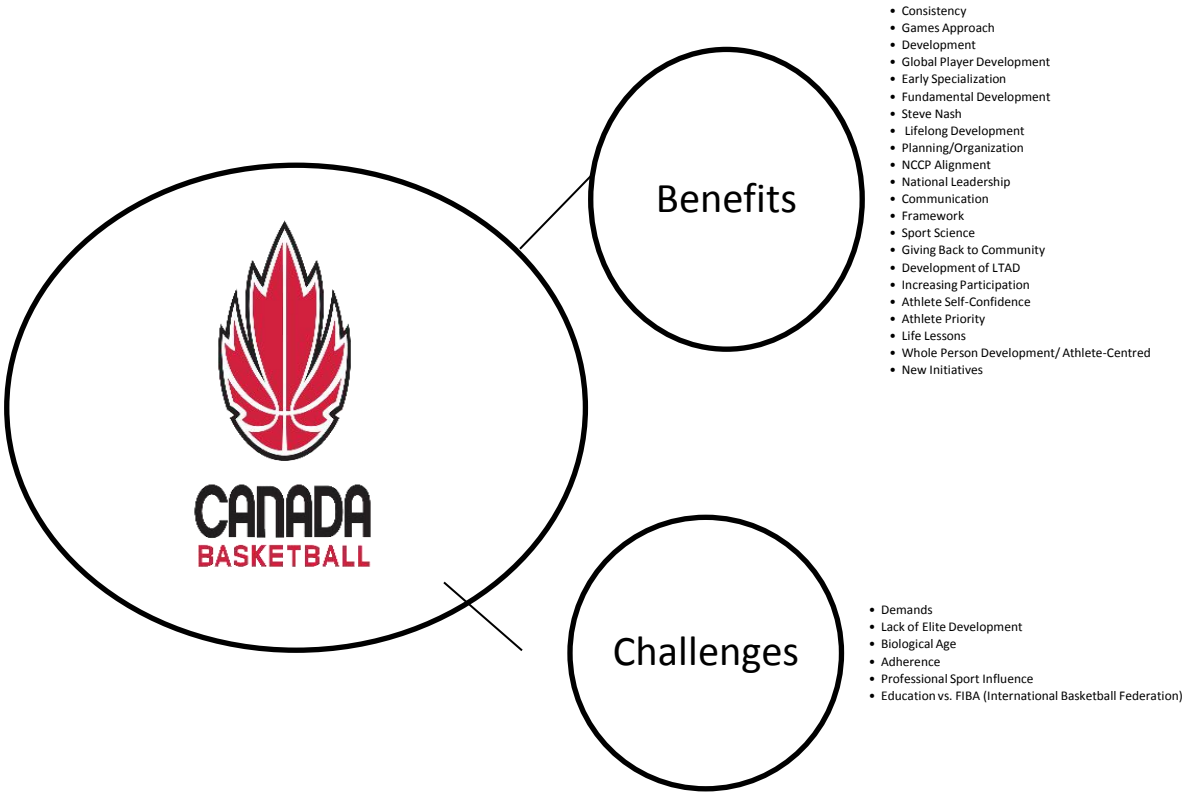


Figure 5: Themes (Trees)-with corresponding sub-themes (nodes) (Canada Basketball, 2017)

I always use an analogy where you know, you have a kids' program out in Antigonish, Nova Scotia, and then you have a kids' program in Toronto Ontario,

> and you know the very same age group could be doing very different things. While a kid in Toronto might already be doing, crazy stuff like behind the back passes, a kid in Antigonish might probably just be happy to have the ball in their hand. So, it becomes important to develop a good system where there is a consistency across development of athletes for the game of basketball in the entire country. (Jamie)

Similarly, another coach felt that it was important that coaches across the country are all teaching the same skills to athletes: "All coaches need to be teaching the same things across Canada. Eventually, they (the athletes) can end up playing anywhere in Canada. It's important that they (the athletes) all learn the same game" (Blake).

Additionally, a couple of participants discussed being supportive of having one National framework for athlete development: "having one national program that has been given to everyone in the country to assist coaches has to be positive. It gives all the kids in the country the same opportunity" (Andy).

> Participants also see the benefits of having a consistent national program. We must develop a good system where there is a consistency across how development should play out for the game of basketball in the country. It's what I'm excited and passionate about. I can't imagine going back and not having LTAD. (Alex)

This result suggests that at least for the participants in the study ADM/LTAD is a plan that they believe has been important for athlete development in Canada and they cannot imagine not having the plan available now.

Games approach development. Another perceived strength was that there was a

shift in the way in which skills were being taught to develop athletes. Rather than the previous drill-based framework approach to a training session, participants felt ADM/LTAD provided a games approach. In the past participants stated that there was too much emphasis on learning skills and not enough on learning how to play the game—that is, learning how to use those skills in competition. The games approach, in contrast to the traditional approach, emphasizes first learning what to do, then how to do it. Moreover, the games approach lets kids discover what to do in the game not by telling them but by their experiencing it. It is a guided discovery method of teaching that empowers players to solve the problems that arise in the game, which is a large part of the fun in learning. The games approach, in time, helps to develop a basketball-smart player. Being basketball-smart means that a player has an innate understanding of what is going on around them on a basketball court and has the ability to influence the game. Such an outcome can only occur if the basketball environment in which the player is trained is a rich one. The use of guided discovery by coaches has had a positive influence on healthy basketball experiences.

One administrator indicated that ADM/LTAD approaches practices with more of A games sense as opposed to a previous drill-based model.

> In the past basketball coaches, would probably teach what was done when they were athletes in their playing days. So, they are imposing an adult model in their games to young athletes. They would basically have kids doing ½ hour of layup drills. They're not focusing on anything to do with the actual game. That's what interests' kids, the game. With ADM/LTAD, we focus more on the game and what can happen in a game situation. (Nic)

A coach also found the games approach in ADM/LTAD to be a welcomed change.

> It makes more sense to teach the game during practice … it's crazy when you think about it. We would be in a game and I think oh I need to work on that in practice…. but we'd go back to practice and work on skills…. when we should have been working on skills in situations and plays. (Val)

Global player development. Participants found that ADM/LTAD has allowed coaches to move away from having athletes who specialize in one area or one position on a basketball team, to more of an overall player who can play five different positions on one team. Participants used the term "global" player to describe a player who can play a variety of positions on a team. Further "global" players are players who have worked on all the skills and have trained to play every position. A global player also needs to be able to defend all positions on the court. Sometimes in sport these players are referred to as a utility player. A term used to describe a player who can play multiple positions.

One participant indicated that previously coaches would put players in positions based on their physical features and those players would then remain in that position for many of their playing years.

> We try not to specialize in one sport. One of the things that we notice with basketball players, well at least with the old-school basketball way of coaching, is if you're tall you are automatically a post player and that starts as young as 6 years old. Well that athlete can be early to mature and he/[she] might stop growing when he/[she] turns 12 years old, and he/[she] is only 6 feet but he/[she] has only played one position in basketball his/[her] whole life. Now he/[she] doesn't know how to dribble the ball at a higher level, so all of that early

> specialization we don't want. We want to make sure that all of our players are global players, and through our FUNdamentals and learn to train stages they are learning to play all different positions. They are also learning all of the necessary skills that allow them to learn to become a global player, meaning they can play all 5 positions on the court. (Blake)

Another coach also found ADM/LTAD to be an opportunity to develop the global player. "I think for basketball, this is sort of where we define ADM/LTAD, the idea of the global athlete and a global player comes into focus. It's all about getting all players to play all positions" (Don). Building on this, an administrator reported that with ADM/LTAD Canada Basketball had a goal to create a resource that would assist in giving players more opportunity to learn more about the game, hoping that the player would become more global in the process. "ADM/LTAD allows athletes to learn the game. We have tried to strategically create a resource which lets all athletes learn about the entire game. We think it works better for the overall game when they are not specialized" (Alex).

Early specialization. A concept which came up in the participants' discussion regarding a "global" player was having athletes who were specializing too early. Sports specialization has been described as intense training in one sport while excluding others. This concept came up with respect to two different ideas. The first for athletes who were specialized because of position, meaning they were given one position on the team to focus on for most if not all their basketball career. The other had participants acknowledge that having an athlete participate in only one sport during their formative years could lead to problems in their development. The participants discussed the need for ADM/LTAD to be a catalyst to assist in avoiding specialization in both instances.

One administrator while speaking of the importance of the AMD/LTAD indicated that having a framework in place has provided the opportunity to avoid specialization:

> You know it's funny, I was just at an awards banquet at the hall of fame where 8 people were inducted, and 4 out of 8 people as they went up in their acceptance speech talked to the audience about how we are forcing our athletes to specialize too early and how one sport becomes so important so early. What are important are those trainability windows and whichever sport they get it from will be developmental. (Nic)

This coach indicated a concern with specialization of athletes, but with the correct coaching and training then an athlete has the best possible chance. The coach believes that ADM/LTAD has been beneficial in this respect.

> So not specializing in a specific position on the court is what we require in athlete development, but this also means not even specializing in any specific sport. I think if an athlete is forced into any position too early it can be dangerous. The benefits for the athlete if they get someone who understands development is the ability to maximize those windows of trainability for them. It should be the same in any sport, it doesn't matter what sport they are involved in, it could be soccer, hockey, basketball it doesn't matter. We should be more concerned with their window of trainability, not age. ADM/LTAD has done this. If we think about it, anyone [who] understands development knows it doesn't matter what sport they are in, coaches are going to maximize the athlete's development so that their athletic choices and opportunities become much greater. (Andy)

Fundamental development. One of the most discussed areas regarding

ADM/LTAD by all the participants was the fundamental development of athletes. The mastery of fundamental movement skills (FMS) has been purported as contributing to children's physical, cognitive and social development and is thought to provide the foundation for an active lifestyle. Commonly developed in childhood and subsequently refined into context- and sport-specific skills, they include locomotor (e.g., running and hopping), manipulative or object control (e.g., catching and throwing) and stability (e.g., balancing and twisting) skills. The rationale for promoting the development of FMS in childhood relies on the existence of evidence on the current or future benefits associated with the acquisition of FMS proficiency (Physical and Health Education Canada, 2009).

The FUNdamentals stage is the second of the seven LTAD stages and involves the concept of physical literacy. In ADM/LTAD resources, the FUNdamentals stage should be a stage where children are learning but also gaining a love of sport through a focus on fun. This stage should also encourage "unstructured play in safe and challenging environments and quality instruction from knowledgeable teachers/leaders/coaches in structured programs at schools, community recreation centres and minor sport programs" (Canada Basketball, 2008, p. 7). Participants felt strongly that ADM/LTAD does an excellent job on the development of athletes in the FUNdamentals stage. The constant message was that they are supportive and find this to be a critical addition to LTAD.

One coach discussed the importance of the FUNdamentals stage.

> What we have here now is a carefully planned instrument for coaches. It is so important to make sure children are getting our best. Take for instance the FUNdamentals stage. We need to ensure our athletes are learning the basics. We set ourselves up for failure if we don't. (Mac)

A learning facilitator also identified the need for planned development from an early age.

> I think from a very young age group, you know, we have created this program. We start from an ABC's development standpoint, from a movement skills standpoint, enveloping the whole fundamental aspects of the sport itself that has become a key emphasis of what we're trying to do with basketball (Brett).

One of the administrators who helped develop ADM/LTAD identified that when developing ADM/LTAD the group responsible was careful in their creation of the FUNdamentals section of ADM/LTAD. The group responsible for ADM/LTAD wanted to be sure to create the best possible program to give athletes the best start in basketball.

Steve Nash youth basketball program (SNYB). One of the ways Canada Basketball was strategic in their efforts to have the best possible program for athletes, was the creation of the Steve Nash Youth Basketball program. "The Steve Nash Youth Basketball (SNYB) (program is a national youth basketball program designed to develop fundamental skills, sportsmanship and a love of the game of basketball" (Canada Basketball, 2016a) through ADM/LTAD (Canada Basketball, 2008). Canada Basketball calls the SNYB program a "grassroots initiative that empowers community basketball groups, facilities, and clubs across Canada in an effort to positively influence youth through the sport of basketball" (Canada Basketball, 2008, p. 1). Named for a former Canadian professional basketball player. Steve Nash has not only been recognized for his talent and leadership on the court but also his desire to connect with youth. Participants reported that they greatly supported the SNYB program. "We were clear in our plan to develop a grassroots program that would give our youngest athletes the most opportunity. Our Steve Nash program has received great feedback. It really has had our full attention"

(Andy).

The participants considered the SNYB program to be a strong development initiative. As one administrator indicated, “We have the Steve Nash basketball program which directly reflects on the fundamental stage. I think the program takes a concept and puts it into a basketball form through ADM/ LTAD” (Alex). Participants indicated that having a part of ADM/LTAD named after an influential individual in Canadian basketball helped young players identify with ADM/LTAD. “We have a program called Steve Nash basketball, which is the national grassroots program for kids 6-12 years old. It has a way of making kids interested. They know the name Steve Nash so they want to be part of that program” (Chris). Not only did participants feel the SNYB program would motivate athletes to want to be part of the program but they felt that the structure of the program was well-developed for coaches.

> So, for example Steve Nash basketball, we created a curriculum with a manual as well we created book of games. It’s a book with 40 different movement skills and games that coaches can incorporate into the practices to make them fun. The kids don’t feel like you are drilling them to death. These are fun games that kids would just do, and in the midst of doing them they are learning from them as well. I think that is the most important part of what we try to promote in basketball. So, from that standpoint talking more specifically on the fundamentals and training side, those are key areas in terms of from a skill development standpoint how LTAD has been a big part of what we are trying to do. (Brett)

Lifelong development. The results of the present study so far have had a focus on the first section of ADM/LTAD. The first section of ADM/LTAD includes, active start,

FUNdamentals, and learn to train. The first section was designed to introduce athletes to basketball. Athletes who would be exposed to this section of ADM/LTAD are beginners, or athletes approximately between the ages of 0 to 12. The indication that once an athlete reached a certain age that they did not need to stop competing, was quite important to the participants. During the interviews, participants seemed to spend most of their time discussing the athletes who would be training in this first section. This was a surprising finding considering that all but one of the participants had coached athletes of all ages. Participants however, referred to the inclusion of lifelong development in sport. Quality early learning experiences not only develop physical competencies but, crucially, also perceptions of competence that underlie the motivation that is vital to continuing participation. In earlier versions of ADM/LTAD, it appeared that an athlete could only be considered a competitive athlete up to a certain age and then he/she would have to be considered a recreational athlete. Participants felt the newer version of ADM/LTAD has been designed to consider that athletes can be older and still competing or can be young and playing recreation basketball. As one learning facilitator discussed,

> Pretty much it's the active participation starting as young as 5 years old. Just building those movement skills and being active. These all contribute to their lifelong involvement in sports you know? Not even speaking about just basketball specifically. In general, kids participating in sport get programming that will help them to get those important motor skills and, physical skills that allow them to be successful in different sports through a lifetime. (Val)

A coach indicated the importance of having the entire lifespan included in ADM/LTAD. "I like that athletes can see the model and know basketball is something

they can play for their entire lives. Before I think everyone thought that once you got to a certain age you were too old for basketball" (Don).

Planning organization. Participants reported that ADM/LTAD provided coaches with resources which assisted them in their roles as coaches. Specifically, the participants discussed their ability to be creative in designing training sessions. This administrator saw first hand the improvement in coaches.

> LTAD allows coaches to become more dynamic coaches, they're not just the typical just go online and look up basketball drills on Google and then it pops up 'here are the 5 drills you can do for practice.' They now are more dynamic in the sense that they are more creative in the thinking of how they should deliver that drill. As opposed to doing a layup drill they think ok let's make this more fun. How do we create an element of fun into a practice which allows kids to be or want to be a part of basketball? And want to participate? We want them to walk away feeling like they are excited to learn the game of basketball so that they won't want to drop out from the sport. So, I think coaches are smarter nowadays having understood more of what is in ADM/LTAD. (Alex)

Coaches also cited ADM/LTAD model when explaining their organization and plan to athletes and parents, as a tool with which to explain their decisions for training.

> What I like to explain to the parents and athletes are the keys stages. Following ADM/LTAD, I'm developing all core skills for movement and sport in younger children. At 12 to 14 years, we can introduce competition or preparation for events. (Mac)

More specifically, one coach explained how ADM/LTAD model gave credibility

to their coaching when it came to parents.

> I spend time speaking to parents about goals, expectations, and processes (according to ADM/LTAD), and I find them questioning me less. I think it makes me look more organized and prepared, like they trust me more. (Jules)

NCCP alignment. Another very clear message found in the results was that the NCCP and modules specific to basketball must be in line with LTAD and each level within LTAD. Preparing coaches to work with the framework, understand it, and being able to coach at each level effectively and confidently was very important to those interviewed.

> The second part of the development infrastructure would be the coaching side of things, ensuring that all the coaches who are coaching in the sport are properly trained and qualified to be coaching at each of the levels. If a coach is coaching at a fundamental level, it would be very different in the skill set compared to a coach coaching at the train to win level. So, it becomes our mandate to make sure that all coaches are trained based on competency. (Nic)

"I think yeah that's the most important thing with coaching, having the NCCP with a clear pathway. LTAD and the NCCP material must be congruent" (Chris). "Coach Education for sure hands down is important because it reaches the masses. I mean the mass is youth sport, that's where the most people are involved in Basketball. The more you can provide that information the better" (Quinn).

When discussing NCCP alignment, participants were not only specific to basketball but sport in general in Canada.

> Yeah, the main goal is to really take care of the National Coaching

> Certification Program so aligning it with the Coaching Association of Canada's principles. But then making sure it applies to the coaches for our country. The certification program is essentially a way for coaches to demonstrate specific behaviours or abilities in order to be certified by a level or to show proficiency in a certain level. (Andy).

Participants in the present study identified several situations related to the support they received in the use of ADM/LTAD, namely from Canada Basketball. This support was divided into two areas, leadership at the national level, and communication.

National leadership. Consistently in the interviews, participants identified that having a sport organization that would lead, support and organize basketball within Canada was critical. This sentiment was shared by administrator, learning facilitators, and coaches. "We are lucky that we have the resources from [Canada Basketball] available to us. Personally, they have been really helpful for me" (Don). "An NSO is supposed to provide direction for the sport. Canada Basketball has done that for us. When I first started coaching, I was pretty much on my own. Now I know there is a lot of support" (Jamie).

Additionally, administrators discussed the need for leadership, support and organization for the members of the NSO, and their role in that need. They see themselves as having a responsibility to their entire membership. As one administrator identified,

> We are similar to most sports in this country. There are a lot of different groups out there that are trying to do their own thing, and building their own kingdom. As a national governing body, it's our job to unify the whole entire basketball

community (Alex).

Administrators also considered themselves as the ones responsible for programming for the country. “We have to provide nationwide change. It has been a long time in the making, but we realized we owed it to all athletes and coaches, to have a national program” (Chris).

Communication. Participants explained communication as the act of expressing (or transmitting) ideas, information, knowledge, thoughts, and feelings, as well as understanding what is expressed by others. They suggested that the communication process involves both sending and receiving messages and can take many forms, including verbal communication (spoken word) and nonverbal communication (actions, facial expressions, body position, and gestures). Participants reported that communication can occur in one-on-one or group settings, and in written formats (e.g., printed materials) or in visual formats (e.g., pictures, videos, and observational learning).

Participants included administrators, learning facilitators, coaches, athletes, and parents as individuals who need to be able to clearly communicate. They believed that expectations, goals, standards, and feelings were all important to the communications process. With instruction, encouragement, discipline, organization, and ability to provide feedback as critical for athletes. Additionally, participants reported that athletes need to be able to communicate their goals, frustrations, and feelings to their coach.

Participants identified that having a central organization (Canada Basketball) allows for outreach and communication to all members.

So, for me you know, when this program (ADM) was first launched it was a new thing. Before that I don’t think people were very much aware of what LTAD was.

> I think once the program was launched it reached more of the public. I think it was able to get out to more coaches across the country and the parents for that matter. (Alex)

Participants also felt that having ADM/LTAD provided an opportunity for better dissemination of their vision. They could package any information, vision, values and principles of Canada Basketball into one document. Participants also found that being able to communicate with parents was made easier with ADM/LTAD.

> We were able to communicate more in terms of what LTAD is. We also provided every parent with a parent's guide that speaks to what long-term athlete development is and why it is important for athletes to be trained under these conditions. We were able to speak to all the coaches through all the coach training and manuals that we provide as to what LTAD is and what the philosophies behind it are. That plays a big part in terms educating the Canadian general basketball public in understanding what this whole movement is. (Andy)

LTAD also permitted Canada Basketball the opportunity to make sure the correct information was being communicated to the clubs, coaches, parents, and athletes.

> We also want to make sure that from a calendar planning standpoint all those things are communicated properly to all the basketball stakeholders across the country, so if you're a coach you must understand that you can't play at a super elite level for 12 months a year (Blake).

Participants were also appreciative of Canada Basketball having resources available to them via the website and Google drive, and that these were available anytime they required them. Coaches especially felt that having these resources online allowed

Canada Basketball to keep them current and easy to update.

Administrators and learning facilitators recognized that it will take some time for every member to use and understand ADM/LTAD.

> It's definitely moving the right way for what we can control in Canada Basketball. Through our programs, we are able to get the communication to all of the coaches and all of the parents of the participants. Through coach education, all our NCCP courses speak to LTAD what it is, what we do, what the philosophies are and all that. Through some of the communication pieces we have, like booklets on our Canada Basketball ADM/LTAD, we have stuff that we can post on a website, it's moving in the right direction you know? More and more people now understand the philosophy behind ADM/LTAD. Our communication channel is as strong as we can get it to be in terms of getting our coaches to change a mindset from the old-school way of coaching basketball. Obviously as a non-profit organization, we are limited by our resources as well we don't have the capacity to create multimedia like television commercials, we don't have the capacity to do bigger stuff like, you know a big conference or the bigger newspaper ads or anything like that to be able to communicate our message to the bigger masses I would say. But again, like I said, I think that is going to take time to be able to reach everyone. (Chris)

Although participants believe that the AMD/LTAD is being communicated through administration and it makes planning for coaches easier, it still could be improved and it is not reaching everyone. Participants suggest that reaching everyone could take time as the available resources and the benefits associated with the

AMD/LTAD continue to filter down.

> I would say a challenge is communicating ADM/LTAD to the public. For myself and the people who are heavily involved and want to learn more about it this is great content and great material but the challenge has been for the average Canadian how do we get this message out? How do we consistently get this out to the coaches and parents so that they understand the importance of this? Like I live and breathe this on a daily basis so I know but, if I were to talk to a parent whose kid is playing basketball and ask them what ADM/LTAD is I am not sure many would be able to answer, it's one of those things that is a cultural change, it's a mind shift change so it takes time to get the communication out and until we get to that point all of this is great but how do we get the end user to understand it? (Alex)

Contrary to the above quotation, other participants perceived the way in which Canada Basketball released ADM/LTAD online as a highlight, allowing for ease of communication. This is also an area that Canada Basketball recognizes and is trying to improve.

> I think one of the main things we have done, that we are very proud of is the access to information through our Google drive and website. I don't think there was really an avenue for access previously. We have done a little bit with a shared Google drive but this year, we'll have a website that will go out that will provide an avenue to share information or videos or any resources. So, I think the main thing that I was able to impact, I guess is the ability to share the information with everyone (Chris).

Sport science. ADM/LTAD is perceived as a critical tool in Canada Basketball because (in theory) all members across the country are developing athletes from the same set of guidelines. Participants reported that simply having a framework in place has brought benefits to Canada Basketball. A few participants identified understanding the need for sport science and empirical evidence to support what they are creating and delivering. It was their general thought that Canada Basketball used and reported research while creating ADM/LTAD. Additionally, three participants who were involved in the creation of ADM/LTAD indicated that they reviewed current research in Canada and outside of Canada to develop the best possible program. As an administrator with Canada Basketball discussed:

> Generally, the sport science that's been done to this point has proven its methods; you know this research was done not just based on athletes here but this is based on the top countries in the world as well. So, understanding what some of the top sports countries in the world are doing and compiling from their methods into developing this ADM/LTAD speaks volumes in terms of its value. Without going into specifics in a general sense that's what I think is a big part of our success with the model. (Nic)

This result suggests that while developing ADM/LTAD, administrators with Canada Basketball were cognizant of the importance of research and theory in the development process.

New initiatives. Many participants have reported that ADM/LTAD has provided the opportunity to encourage new initiatives. So, where there might be concern that ADM/LTAD could become a framework that is not used, about half of the participants

believe that it has allowed Canada Basketball to uncover where there are gaps to improve the game or begin to examine alternate ways to playing the game.

> Yeah you know everything I pretty much do is based on ADM/LTAD. I think it is a very important tool, now that I have a deeper understanding on its importance and what it does for an athlete in the long term. We should continue to conduct research with it to improve it and understand what we are doing well. (Quinn)

One administrator was specific in a new initiative that they felt was a result of implementing ADM/LTAD.

> Over the last few years, I have been overseeing a number of newer portfolios. For example, 3X3 which is a new FIBA initiative of 3 on 3 basketball as an avenue to promote the sport and also to follow up with a secondary competition stream. I think this 3X3 happened because of ADM/LTAD. (Andy)

The same participant also discussed the emergence of other programs that are currently in development which were a result of ADM/LTAD. "We have other programs in the works. One which we are currently calling Club Excellence that we will be launching in the next year or so, happened because of feedback from our coaches" (Andy).

At the start of the study, I believed that I would find results which would reveal the benefits and challenges associated with using ADM/LTAD. What I did not anticipate were unexpected benefits associated with ADM/LTAD. This section includes results that have not previously been identified in the literature. These results are reported below.

Giving back to the community. Something that was very clear in the interviews and was addressed by almost every participant was the idea of giving back to the community. Giving back to the community was identified by the participants as mainly

volunteering time by others and the outcomes associated with giving back. Participants discussed how giving back to the community touched many people's lives. Whether at the administrator, learning facilitator, or coach level, there are individuals who are involved in Canada Basketball because of their passion for the sport of basketball. They want to make the sport better for all athletes and they want to pass on their passion through ADM/LTAD.

> It started when I was younger and I've always sort of loved the sport of basketball so at a very young age besides playing in the game itself I've always wanted to give back. There was a community league out in Mississauga where I was living and I decided that I wanted to volunteer and from that, as young as 14-15 years old I was already volunteering and helping at different community events. From that point, I moved my way up in different events that I helped out with and took more of leadership role. (Andy)

Participants reported that they felt as if they are giving back to the sport and community through their role in Canada Basketball. One way in which they experienced the feeling of giving back was by assisting in the creation of ADM/LTAD. As one learning facilitator explained, "We were all complaining about how old the coach education materials were. I wanted the chance to give back and be part of the team that would update and keep updating coach education materials" (Alex). Additionally, participants indicated that there was an opportunity to feel like they were giving back regardless of their position with Canada Basketball.

> As a coach, I felt like I was giving back, but when given the chance as a learning facilitator to work with Canada Basketball I just jumped at it. I felt like I could

really make a difference across the country. (Jamie)

Participants, report that good learning facilitators help to encourage coaches to better their game. The learning facilitators see the importance of being involved in the development of NCCP programs and ADM/LTAD.

> My biggest highlight is the number of people that I have taught and what they have given back to the athletes. So, to see them then pass the torch and treat their athletes the way I have taught them is the most important thing to me. I feel like I have had success. (Mac)

Development of LTAD. Participants frequently discussed their role in the development of ADM/LTAD. Those participants who had a role in the development of ADM/LTAD not only discussed the process in creating LTAD but also their thoughts and feelings associated with being involved. Participants reported that there was a high level of responsibility associated with putting together ADM/LTAD. Participants also discussed how much pride they took in developing ADM/LTAD and understand how critical it could be for others in the sport. "It is exciting to be part of this movement. To know that I have helped to form the legacy for the future is really exciting to me" (Andy).

Specifically, an administrator discussed how important they felt ADM/LTAD was for coaches.

> I think they love the resources. Coaches will always be happy to take what they are provided. I think a lot of times coaches lack direction and that's our job as a national governing body to be able to provide the technical expertise of what they should be doing. So, when we provide all of these resources, for example "here's a 10-week curriculum, here's a 15-week curriculum to here's a whole entire

> book" we have specially designed just for your athletes. They love anything that can guide them, help them and assist them in promoting basketball development in kids. I think they like that support. (Alex)

During the interviews participants indicated that they understood the impact that they had on the game of basketball. They believed they could reach a large portion of the Canada Basketball membership, and they could see a change in the game through their work with ADM/LTAD. This was discussed by an administrator:

> I think for one you have an impact to you know really see the development of the game. The passion of the game is there you know? I play the sport, I've been involved from a coaching standpoint, and I've been involved you know even officiating different tournaments. As an administrator, you really get the chance to develop the system, you get the chance to really create a structure that makes sense from a basketball development standpoint. (Nic)

Further, another administrator discussed the history and impact of ADM/LTAD:

> ADM/LTAD is probably our fundamental backbone of Canada Basketball. We were one of the earliest sports to have developed ADM/LTAD system, so we have had a chance to work with it and see the changes to the game it has brought. (Chris)

Increasing participation. One of the changes that came with ADM/LTAD as discussed by the participants was the increase in athletes joining basketball. This concept was identified as being thought of as part of the various roles in Canada Basketball.

> Back when I first started in 2007, there was a need for youth basketball involvement. There was a need for growing the game and developing a broad base

> of participants that played the game of basketball" (Andy). "Because we work at a national level, we are able to see an increase in participation across the country, especially in our Steve Nash program. (Blake)

Athlete self-confidence. Participants not only see an increase in participation and a better game flow; they also reported seeing an improvement to the athletes' self-confidence on the court. This is the athlete's belief that they can successfully perform a desired behaviour. "The players have more understanding of the game. They have a better feel for the game, and they are definitely more confident because of that" (Alex).

> Building confidence, you know? Being in sports and being part of a team you know? Playing the game of basketball and being part of something other than themselves, allows them to build confidence, and develop different life skills like leadership, work ethic and all the things that allows them to be more confident in life in general. (Quinn)

Athlete priority. Participants identified that ADM/LTAD provides direction for making the individual athlete the priority. When athletes are made the priority, participants reported that the athlete's personal needs come before everything else, especially winning. They included needs related to physical, psychological, and social constructs. Participants reported that the structure of ADM/LTAD, and the resources provided by Canada Basketball put athletes first.

> I think it (ADM/LTAD) expresses individual trainability windows. I have found that I am more aware of what each athlete needs. There is an emphasis on an athlete first approach in its (ADM/LTAD) guide materials. I can recognize now

> when an athlete needs a rest or when they need to balance their athletic opportunities. (Val)

Life lessons. Participants felt that ADM/LTAD had opportunities for life lessons to develop and/or encouraged through basketball. Life lessons were described as skills which assisted the players on and off the court. These life lessons were identified as learning positive health habits and becoming physically fit, development of psychological attributes and dispositions (e.g., a sense of optimism or hope) and specific skills (e.g., the ability to set goals or manage stress), setting goals, socializing, communicating well with other players and adults, and making informed decisions becoming a caring and ethical individual, developing a general sense of self-worth, learning how to adapt to different educational and working environments.

> I think it's in any sport really. I think its physical activity, social connection, learning teamwork, and learning values, all of the life lessons. Hopefully if they are in the right program, and learning how that in order to get something you have to do something. All of those really important life lessons I think are packaged in a sport environment, or can be packaged in a sport environment. (Jules)

Additionally, participants felt life lessons contribute to assist players in dealing effectively with the demands and challenges of everyday life.

> A highlight for me as a coach is to create lifelong learners. I would also say training these athletes to get them to the next level if that's where they want to go. I think that would be the big thing about introducing them to the skill, introducing them to concepts but giving them that opportunity to continue to learn more and get better at their life skills along the way. ADM/LTAD provides little bench

> marks, little steps ok, "here we do this" "here we are going to start introducing these skills" or you know spend more time and more emphasis on refining the fundamental skill. (Brett)

Participants also reported that life lesson development is not guaranteed by just joining a team or playing a sport. Developing life lessons requires careful planning and should have as much emphasis placed on it in ADM/LTAD as physical basketball skill does.

> Done right it [ADM/LTAD] can teach life lessons that they can't get from other places in their life. They can learn these in a safe learning environment. That's if it is done right, done wrong it can be a disaster because they will learn exactly what I said before. They learn the wrong things like entitlement. Then they learn to be a bully and think they are better than others. But done right they are going to learn all about responsibilities and leadership. They are going to learn about passion, they are going to work together, they are going to learn all those life skills but only if it's done right. (Brett)

Whole person development/Athlete-centred. ADM/LTAD was reported by the participants as being a major framework for changing how the coach's decision making and programming have developed. Participants reported that players are being developed from a whole person/athlete-centred perspective and ADM/LTAD has been a catalyst for this. Participants recognized that the athlete is an athlete and a person through sport. Athletes are whole and developing people, who need support in all aspects of their lives including fostering the holistic development of the athlete (e.g., developing independence, leadership, teamwork skills, and decision making skills) (i.e., physical,

psychological, and social). As one administrator discussed,

> It's everything, not just the physical or sport-specific development but on the emotional side, cognitive side, all of it plays a part in developing the whole athlete. So, this whole athlete approach is what we are trying to do through ADM/LTAD. It makes sense to me, and I think it is critical to everything that we do. (Chris)

Participants felt that it was important to have a framework that developed good people.

> In order to develop good people, the focus must be on the whole individual not just the basketball player. "How is it going to help the players not just become better basketball players but a better person? So, those are the pieces we have created to make sure whole development is happening correctly" (Nic).

When participants were discussing what, they were passionate about and why they held the position they did with Canada Basketball, they all identified wanting to help develop good people not just good athletes. One coach shared the following:

> This may sound corny but my biggest highlight is the number of people [whom] I coached and what they have given back to the school and seeing them go on to be successful people. It's more about the people than it is about the wins and the losses. I had wins and losses but I always tried to say that it's because I tried to focus on building people that I had those wins. As a coach, you will always win but if you focus on the wins, you can't always build people. (Blake)

When discussing what, they hoped coaches learned about ADM/LTAD through an NCCP course, a learning facilitator noted the following about using the plan for

fundamental and whole person development:

> I'm hoping that they are learning that you must plan, you can't just walk on the court. I hope they learn that you must be athlete-centred. I'm hoping that they are learning that you must be passionate. If you don't have passion then you're not building dreams so I always tell people there are 3 jobs of a coach: 1) is you got to make each individual better, better player better person; 2) you got to get all those players to work together that's team building and how to play offence and defense; and then 3) you build dreams. You must be motivating and you must be helping those athletes be inspired. So, I hope those are the things I'm teaching coaches to do. (Jamie)

Challenges

In the previous section of the results I discussed the benefits and importance of ADM/LTAD. Although there was overwhelming support for ADM/LTAD, participants also identified challenges. These included challenges with ADM/LTAD, and issues that could be addressed with ADM/LTAD. These issues are reported below.

Demands. More than half of the participants reported feeling overwhelmed with paperwork and administrative duties as part of their position with Canada Basketball. They identified some of these duties as budgetary responsibilities, registration, filing, emailing, rostering, and responding to questions from various sources. This feeling had an impact with how participants interacted with athletes.

> As an administrator, you need people to give you information so you can do your job. What happens is you can get so many layers and you're constantly asked for information but it's not helping any athlete's performance but it's just so that you

> can justify your job…. It's just administration taking over and it becomes driven by administration and that sometimes happens in ADM/LTAD implementation. There are too many layers of administration and information that you can't get through it all. (Nic)

A coach reported that they felt their position had too much responsibility with regards to administration that they could not focus on the development of athletes as much as they would like to.

> What I don't enjoy sometimes is the whole administrative culture of what we must do, like budgets. What happens is sometimes administration takes over from what you're supposed to do. For example, when we need to spend more time working on a report for a government office than we do on developing plans for the athletes. (Quinn)

Lack of elite development. Another issue identified with using ADM/LTAD was the lack of information available for the athletes in the elite or competitive stream. Participants identified these athletes as being in the train to train and train to win stages of ADM/LTAD. Participants felt that coaches found difficulty in being able to train athletes in the more elite levels. They felt AMD/LTAD could do a better job of providing specific examples and training plans for elite level athletes.

> I think people have a hard time with implementing ADM/LTAD in competitive situations. I think the mass public sees it as a ParticipACTION tool, but if you're coaching high level that's not what you do. I think the target of ADM/LTAD was for the mass population and they definitely got it. I think they got lost on the competitive stream which is almost the more dangerous stream because that's

> where the athlete is being pushed and it is more adult-driven. I think it's missed there a little bit. For example, if you have an athlete in the train to train level they could be to the left of the graph or the right of the graph and as you kind of go more to the left of the graph they're becoming more elite. What does that look like versus more to the right of that stage and more towards the active for life participation house league? I don't think that it's described at all, like barely and is definitely not discussed. Like it's something we spend time on in our clinics, but I don't think it was as detailed as other things in ADM/LTAD. So, there are some coaches who still don't understand that there are actually ranges within a stage, it's not an absolute. (Val)

Biological age. Participants identified biological age in ADM/LTAD as a concept that can be confusing. Primarily learning facilitators, and coaches discussed the difference between biological age and chronological age and how these concepts are presented in ADM/LTAD. Once coach felt that there could be a better explanation of the two in ADM/LTAD.

> I think they [ADM/LTAD experts] have done a good job with the concept of the biological age and the physical age. I don't know ... I think they could have done a better job at explaining it but it's a hard concept to grasp and people have a really hard time with it. (Jules)

Adherence. There was concern from the participants that all members might not adhere to ADM/LTAD and follow it as it is written. They felt that if having ADM/LTAD is required by Sport Canada and Canada Basketball, then all members of Canada Basketball should be using it. They would like to have a way to ensure that this was

happening. “We need a way to make sure our coaches are actually following ADM/LTAD. There isn’t a follow up after they complete their NCCP training”. (Mac) Specifically, participants were concerned with overtraining, even though ADM/LTAD was designed to avoid overtraining.

> There has got to be periodization that allows an athlete to rest and recover otherwise if you overplay them there will be burnout and injuries. There are messages that we try very hard to make everyone aware of, but I don’t know how we make sure they follow those messages to avoid these situations. (Brett)

Participants reported that they had witnessed overtraining of athletes by coaches. “There are a lot of young kids wearing ankle braces or knee braces. This is happening with our 12 or 13 years old. I believe it’s from overtraining…. that should not be happening especially with a plan in place” (Quinn).

Further to this, participants felt that there was no accountability on behalf of the coach. Participants felt that there needs to be a strategy for follow up or testing with coaches to ensure that they were following ADM/LTAD.

> If LTAD is actually adhered to then the overtraining wouldn’t happen for the athletes, again it’s too many adult decisions. What adults think is best for the athlete which is potentially not best for the athlete. We should have some level of accountability. Are these adults actually following LTAD? (Jamie)

Professional sport influence. Although not specific to ADM/LTAD, participants reported professional sport influence as an area which could be addressed by and possibly improved in ADM/LTAD. Participants felt that there was too much emphasis on

professional sport in minor sport explaining that parents and athletes were motivated by the possibility of a future in the National Basketball Association (NBA).

> I do not like the business approach that youth sport takes, the influence of parents, or the helicopter parent and the child. Some parents behave terribly, when they believe that their child is going pro. The kid might not even have a long shot, but that doesn't matter to the parent. They will spend large amounts of money to try and get them to the NBA. (Nic)

Participants reported that if an athlete shows talent in basketball they are treated differently.

> The glorification of our young males is too high. If you happen to be good at sport you see this building of the ego. It builds these myths with sport that as long as you're talented everything else is taken care of for you. Do you know what I mean by that? There is no accountability for these athletes, for a lot of young males who get themselves into trouble it's because they are good at sports but no one has taught them responsibility and accountability. (Jamie)

Convincing athletes of the overall benefits of LTAD can get particularly difficult when coaches find an athlete who has the potential to turn professional in basketball. Participants reported that once parents have an idea that their child will be following an elite sport pathway, they become focused on that pathway and tend to forget the benefits that basketball can bring.

> I think it is hard, especially in basketball because, especially on the boys' side there are athletes going to the NBA. These contracts come with high dollar figures attached to them. Parents don't see the need for development. The parent

> has a conflict of seeing production versus say athlete development and this causes a questioning of why they are not just doing drills to get them ready to excel in basketball earlier. We haven't really had an example of an athlete who followed ADM/LTAD and is now pro. If we did, ADM/LTAD could be publicized as a tool to help athletes reach the NBA. I think there's a conflict with parents and trying to understand you know success for the very young athlete versus the longevity of physical activity for their children. (Don)

Education versus FIBA (International Basketball Federation). Participants made it very clear that one of the more frustrating aspects of using ADM/LTAD was the fact that school-based basketball programs and Canada Basketball are playing by two different sets of rules. This has made it very difficult for athlete development in terms of having to try and re-teach previously learned skills. Participants suggested that ADM/LTAD developed by Canada Basketball, should be the athlete development model that all basketball across Canada would have to adopt and follow. They would like to see consistency with all programs teaching basketball.

> I don't know if it's (ADM/LTAD) totally hit the masses yet, and I think our biggest downfall is not being able to get into the educational system. What I mean by that is not necessarily the university and colleges but I mean into the elementary and secondary school systems. Unfortunately, this is the place where the majority of the athletes first learn basketball. When they get to us they have learned quite a different game. So, that's where us as sport organization have a lack of control or influence because it's really going through different agencies that don't really consider either national bodies or provincial bodies or

what they have to say. (Blake)

Further participants reported that they found it difficult to try and meet with those responsible for basketball in education. “Yeah it’s really frustrating like the schools just are not interested. They aren’t interested in having discussions really” (Jules). Participants recognized the importance of working with the education system to have ADM/LTAD reach a larger audience.

> Being able to get it into educational system is super powerful because it touches every child in the entire country. It is so important to reach the physical educators and the athletes. Imagine getting it into the hands of those who could actually deliver ADM/LTAD to education? Having the education system aligned with Canada Basketball would be huge for our participation. (Chris)

Results Presented by Participant Role

The previous section presented the results as whole from all 12 participants. It was also interesting to consider the results in the three categories of participants in the present study, administrators, learning facilitators, and coaches. The following table presents these results.

Position	Benefits	Challenges
Administrator	Consistency Games Approach Global Player Communication Early Specialization National Leadership Steve Nash Youth Basketball Lifelong Development Planning/Organization	Demands Education vs. FIBA Adherence

	NCCP Alignment Giving Back to Community Development of LTAD Increasing Participation Athlete Priority Life Lessons Whole Person Development/ Athlete-Centred Framework-Sport Science	
Learning Facilitator	Communication National Leadership Steve Nash Youth Basketball Lifelong Development NCCP Alignment Fundamental Development Framework-Sport Science New Initiatives Giving Back to Community Development of LTAD	Demands Education vs. FIBA Lack of Elite Development Biological Age Adherence Professional Sport Influence
Coach	Consistency Games Approach Global Player Communication Early Specialization National Leadership Steve Nash Youth Basketball Lifelong Development Planning/Organization NCCP Alignment Fundamental Development Framework-New Initiatives Giving Back to Community Increasing Participation Athlete Confidence Athlete Priority Life Lessons	Demands Lack of Elite Development Biological Age Adherence Professional Sport Influence

	Whole Person Development/ Athlete-Centred	

Table 2- Results across the three positions in Canada Basketball

Administrators

Benefits. A result that was quite profound with the administrators was the role they had in creating ADM/LTAD and its framework. All administrators interviewed in the present study explained how they felt pride in the development of ADM/LTAD. Administrators wanted to ensure that Canada had a framework that places the athlete first with the focus being fundamental development and teaching games sense.

Consistency in athlete development across the country was another concept that was important to the administrators. They mentioned wanting athletes across Canada to be developed as consistently as possible. An issue that administrators identified prior to the introduction of ADM/LTAD was the expectation that children could play an adult game, with a drill-specific model. Administrators felt that with the introduction of ADM/LTAD athletes were now being developed in a way that was more conducive to their natural development.

Administrators genuinely respected and encouraged the active for life section of ADM/ALTAD. They wanted athletes, regardless of skill level, continue to pursue an active lifestyle. One of the more prevalent areas on which administrators reported was that the organization had effectively communicated ADM/LTAD to their membership, including, learning facilitators, coaches, and the general membership. They felt by using

various methods; internet, coach education, and word of mouth, ADM/LTAD was being distributed and used across clubs, P/TSOs, and NSO in Canada. Administrators identified coaches as the main conduit of ADM/LTAD. They also identified that the NCCP was the best way to disperse ADM/LTAD.

Administrators reported that ADM/LTAD supports the athlete-centred approach and the focus on developing the whole person, recognizing that life skill development although not expected in sport development can be achieved with a program that is purposefully created to develop the whole person.

Administrators understood the responsibility associated with developing ADM/LTAD. It was a source of pride and they acknowledged how critical it could be for others in the sport. The administrators reported having a wealth of experience in basketball and believed this helped shape ADM/LTAD. They identified advantages and disadvantages of developing athletes and educating coaches. It was also clear that the organization made athlete development a priority by approaching administrators, learning facilitators, and coaches they felt could make a difference in the development of ADM/LTAD.

Administrators felt that ADM/LTAD had been designed to avoid athlete burnout and overtraining. They felt that athlete burnout and overtraining had been major issues prior to ADM/LTAD. Finally, the administrators felt that too many young athletes were previously getting frequently injured and because of ADM/LTAD, they believe that athletes are getting injured far less.

Challenges. Administrators felt overwhelmed with their administrative duties and could not exclusively focus on the development of athletes. There were two

administrators who believed that communicating ADM/LTAD needed some improvements. Part of the issue with communication was the fact that ADM/LTAD was not integrated within the education system. Even though ADM/LTAD has been reported as a better development model for the athlete in the long run, administrators reported that getting the parents to understand and adopt LTAD had been difficult.

Learning Facilitators

During the interviews, five participants identified as both an administrator and learning facilitator. When answering the questions, many of their responses were very similar regardless of whether they were answering as an administrator or learning facilitator.

Benefits. The learning facilitators perceived the importance of being involved in the development of NCCP programs and ADM/LTAD. Learning facilitators identified their interest in the importance of planning and using ADM/LTAD to help develop coaches in the NCCP courses. They wanted coaches to do well and learn from them to help develop players. Learning facilitators reported wanting to give back to the sport and community by working with the coaches and the NSO. Furthermore, they reported that good learning facilitators help to encourage coaches to become better coaches. Learning facilitators perceived their role as contributing to the development of coaches to help achieve international recognition.

Challenges. Like the administrators, learning facilitators identified being overloaded with paperwork and administration. Learning facilitators reported that having to deal with the idea that basketball is a business can be frustrating. Especially with young athletes who are lured by the promise of money as future professional athletes.

Learning facilitators felt that ADM/LTAD should include a section to help athletes and coaches understand and respond appropriately with talented athletes and navigating the professional sport world.

Coaches

Benefits. Coaches identified that ADM/LTAD has a focus on fundamental movement skills which they indicated was critical to the athletes' development. Interestingly, one coach discussed their experience with avoiding ADM/LTAD. They felt they could not avoid using ADM/LTAD any longer as they were finding their athletes were falling behind developmentally. Although coaches found issues with navigating the materials at times, they reported that the support they received from Canada Basketball was excellent.

Coaches reported that having ADM/LTAD provided a focus on the whole development of athletes, including physical, cognitive, and affective. As well, they found that global development of players and game was essential in overall development at all levels. Coaches reported that they are extremely proud of developing the whole athlete, especially athletes who have learned life lessons through sport. Coaches felt passionate about what they could give back to the athletes and the sport by becoming a coach.

Challenges. Coaches found it difficult to stay current with material. They reported that issues with staying current with materials could be a result of feeling overloaded with the amount of time and work involved in coaching, leaving little time for anything else. Another issue coaches identified was demands from parents, organization, players and administration making it difficult to focus on the development of athletes. One of the challenges that coaches identified in using ADM/LTAD, is the actual buy-in

from other coaches. The coaches felt it would be important for leaders of Canada Basketball to monitor the use of ADM/LTAD, and seek advice from coaches regarding the best practices in using ADM/LTAD.

There was not much difference in the reporting of benefits across the three positions. The unexpected benefits showed more of a discrepancy with coaches reporting more of the sub-themes which deal with athletes individually whereas administrators reported more on ADM/LTAD development. More challenges were identified by learning facilitators and coaches. This could be a result of learning facilitators and coaches being on the front lines working more directly with the athletes.

Chapter 5

Discussion

The purpose of the present study was to explore administrators', learning facilitators', and coaches' perceived benefits and challenges of ADM/LTAD in Canada Basketball. Although the concept of LTAD is used in sport across Canada, there is a paucity of empirical research on the topic. Results revealed two main themes: benefits associated with ADM/LTAD, and challenges associated with ADM/LTAD. These findings add to the literature by providing one of the first assessments of how an NSO, through a sample of their administrators, learning facilitators, and coaches are interpreting, understanding, and using LTAD.

There has been limited research in regards to LTAD (Balyi & Hamilton, 2009; Black & Holt, 2009; Grange & Gordon, 2004; Lang & Light, 2010; Stafford, 2005; Sullivan, et al., 2010). Further there has not been any research that has studied NSO administrator's perceptions of LTAD.

Bruner et al. (2010) suggested further research was required in understanding the concept of athlete development. More notably to the present study was their recommendation around the need for empirical evidence regarding athlete development programs. "Minimal research has empirically tested the proposed complex models. The athlete development field in general is in need of more model testing" (Bruner et al., 2010, p. 199). Additionally, Bruner et al. (2010) suggested that future research should examine, the youth athlete and the athletic environment relationship, considering developmental psychology research around developmental features of an activity setting "e.g., appropriate structure, supportive relationships, opportunities to belong, positive

social norms, etc." (p. 199). Further Bruner et al. (2010), believed that an understanding of these features is viewed as paramount to the obtainment of a number of desired developmental outcomes from the setting. As such, the present study described some important delivery information which should provide a platform for advancing research in these areas.

Benefits

One of the most prevalent messages conveyed during the interviews with participants was that ADM/LTAD is a very welcomed resource in Canada Basketball. Specifically, the ability to develop athletes using the framework has been important for a few reasons. The constant message was that the participants of the present study were supportive and found ADM/LTAD to be a critical addition to Canada Basketball. This finding was inconsistent with Black and Holt's (2009) suggestion that there was limited support for LTAD. Considering the research participants' perceptions of Canada Basketball's support for ADM/LTAD and the suggestion from the present study that time is required for LTAD to be disseminated and understood, Black and Holt's findings might be different today.

Prior to the development of ADM/LTAD, participants of the present study reported that there was no consistency in the development of athletes across Canada. Since the introduction of ADM/LTAD, participants believed that having one development program has allowed all athletes to have the same opportunity to develop. This is inconsistent with Black and Holt (2009) and Martindale's (2007) findings in the UK. These authors suggested that LTAD was not implemented in a consistent manner across or even within the clubs studied. They expected some inconsistencies, but were

surprised to find inconsistencies at local-level clubs within a single province. Additionally, they found some lack of coherence between the principles of the program and the ways in which it was implemented. Specifically, the guidelines for interpreting and delivering national level programs based on LTAD were not clear. As already suggested from the findings of the present study, Canada Basketball has done an excellent job in creating, disseminating and supporting the use of LTAD.

ADM/LTAD was perceived by the participants as a critical tool in Canada Basketball because (in theory) all members across the country are developing athletes from the same set of guidelines. Due to this, participants identified understanding the need for consistency in athlete development and their hope that coaches are in turn using ADM/LTAD to develop athletes. This was in contrast somewhat with Martindale, Collins, and Abraham, (2007) who found that, although an integrated stage system was deemed as important and necessary by all participants, there was a lack of coherence between levels of sport. For instance, there was no consistent use of philosophies and methods at the club, school, academy, and national program levels. I state "somewhat" as the present study identified that the school system was not using the same set of rules as Canada Basketball and FIBA.

Participants in the present study did not report any inconsistencies with how ADM/LTAD was being presented. In fact, they reported that they welcomed the consistency ADM/LTAD brought to their sport. Consistency is an important feature identified in other studies (Banack, Bloom, & Falcão, 2012; Black & Holt, 2009; Ford et al., 2011). Consistency should be ensured by all sport organizations. Further consistency in all areas including the rules governing basketball must be recognized in Canada.

One of the most discussed areas by all the participants was fundamental athlete development. Participants felt that the focus of ADM/LTAD was on the development of athletes from the beginner, through elite/competitive, to the senior and fit for life perspective. In fact, fundamental movement skill development was found to be a very developed concept and an important part of ADM/LTAD in Canada Basketball through the present study. As one participant indicated, ADM/LTAD provides a new way of developing athletes by moving away from a drill specific framework and to more of teaching games for understanding approach. This concept is also supported in the literature (Lang & Light, 2010). Lang and Light suggested that coaches could continue to coach in a detrimental way without ADM/LTAD.

Although earlier research suggested that LTAD did not provide enough direction (Ford et. al, 2011), participants in the present study felt that they were provided with adequate direction and it was a choice by coaches to not always follow the direction provided by ADM/LTAD. Further, participants reported that with ADM/LTAD, there were specific areas where athlete development was improved. They identified how ADM/LTAD has allowed coaches to move away from having athletes who specialize in one area or one position on a basketball team, to more of a global player who can play five different positions on one team. Although this was identified in the present study, the concept of a ‘global’ player development through LTAD has not been identified in previous research.

Based on what was found in ADM/LTAD resources; and by Sullivan et. al. (2010), it was thought that there might be specific findings regarding physical literacy in the present study. There was however; very little mention of the term physical literacy in

the present study. This was surprising considering the importance of physical literacy in the pilot study Sullivan et. al. (2010), conducted and the interest in this research area (Balyi & Strafford, 2005; Balyi & Williams, 2009; Lopez, 2009). Participants however, did report that the development of fundamental movement skills in athletes is critical. This could suggest that participants did not consider physical literacy as an important concept, or that they identified it in relevance with fundamental movement skills (Vallée & Bloom, 2005). It is important to note that during the interviews, probing with terms used in ADM/LTAD (i.e. fundamental skills) may have led the participants in their answers.

Another specific developmental construct was the importance of having athletes not specialized too early as this can affect their development overall. Participants believed that ADM/LTAD should be developed and followed to avoid this. There are several concerns associated with early specialization in sport. These can include: social isolation, overdependence, burnout, manipulation, and overuse injuries (Anderson & Mayo, 2015; Côté, 1999; Côté, Baker, Abernethy, 2003; Côté, Baker, Abernethy, 2007; Fraser-Thomas, Côté & Deakin, 2008; Côté & Fraser-Thomas, 2007; Côté, Lidor, & Hackfort, 2009; Ferguson, 2014; Horn, 2015; Malina, 2010; Smith, 2015; Torres, 2015).

The athletes and perhaps parents often place blind faith in the system and the sport leaders who regulate that system. Talented young athletes are regularly sought-after commodities, and can be exploited, with corporate money permeating youth tennis, soccer, baseball, basketball, and football (Malina, 2010). I should note that Malina's work is conducted in the U.S.A. and primarily with young boys, however, participants in the present study felt that Canadian youth are also scouted and actively pursued.

One of the main goals of LTAD was reported as ensuring children learn fundamental physical skills during their optimal physical development stages (Canadian Sport Centres, 2005). Participants felt that ADM/LTAD has been designed to avoid athlete burnout and overtraining. This was something that the participants felt was a major issue prior to the introduction of ADM/LTAD. The administrators felt that too many athletes were getting injured at too young of an age. Having a program in place allowed administrators to provide coaches with a developmentally appropriate program, which provided direction for coaches, allowing administrators a reference tool to monitor coaches with. Participants reported that ADM/LTAD provided the opportunity to encourage new initiatives. According to participants, ADM/LTAD allowed Canada Basketball to identify gaps in order to improve the game and consider alternate ways to develop and play the game. This concept was also considered by Côté and Hay (2002) who suggested that engagement in playful and varied non-domain specific activities are valuable at early stages of development, and late specialization between the ages of 13 and 17 years old to be an important predictor of the quality of later skill development.

Another issue that participants identified prior to the introduction of ADM/LTAD was the expectation that children could play an adult game, with a drill specific model. Since the introduction of ADM/LTAD, participants reported that athletes are being developed in a way that is more conducive to their natural development. Participants identified that ADM/LTAD includes a fundamental movement skill focus which they indicated was critical to the athlete's development. Interestingly one participant discussed what it was like to try and avoid ADM/LTAD. It got to a point where they could not avoid using ADM/LTAD any longer as they were finding their athletes were falling

behind developmentally. Emphasis on appropriate fundamental, cognitive, and motor skill development rather than early success reflected the idea that an athlete's performance should be separated from an athlete's potential. This can be accomplished by using a stage-specific talent development approach including fundamental mental skills, fundamental physical skills, sport-specific skills, and teaching an athlete how to balance sport with life responsibilities (Beamer, Côté, & Ericsson, 1999; Ericsson, 2003).

Participants wanted to ensure Canada had a framework that placed the athlete first with the focus being fundamental development and teaching games sense. Black and Holt concluded that LTAD was used more as a planning tool than as a strict training program and that it was being implemented differently across ski racing clubs (2009). There was no evidence to suggest this was the case in the present study. This could be a result of the previous research informing leaders charged with developing LTAD and their ability to improve the plan over the years. It should be noted that Black and Holt (2009) studied a PSO in a different sport. However, Desjardins (1996), and Martindale (2007) concluded that NSOs need to ensure a long-term vision and purpose for the development of their athletes, implement this vision systematically, and reinforce the system at all levels within an organization.

It was also clear that Canada Basketball made athlete development a priority by approaching those individuals they felt could make a difference in the development of ADM/LTAD. It is apparent that development is extremely individualized and in turn, for effective practice, individuals should be treated as such. Ford et al. (2011), Rowley (1992), and Ysseldyke and Christenson, (1987) recommended athlete development programs treat each athlete as an individual.

The desire to give back to the community was mentioned by most participants. Whether at the administrator, learning facilitator, or coach level, there were individuals involved in this process because of their passion for the sport of basketball. They wanted to make the sport better for all athletes and they wanted to pass on their passion through ADM/LTAD. Participants felt that their ability to influence an athlete for the rest of their lives, both in sport and in life was a profound way to give back to individuals.

Participants commented that they supported the inclusion of lifelong development in sport. The indication that once an athlete reached a certain age that they were not forced to end their competitive career, was quite important. One participant explained that their reason for getting involved in ADM/LTAD, was related to identifying issues with how athletes were being developed in the old system. It was deemed important to have passionate individuals in an organization to help disseminate the programs and policies developed by the organization. Building on this, participants discussed how ADM/LTAD has helped to change the focus of how they were developing the game for the younger athlete. It allowed them to find more creative athlete-centred ways to increase skill and confidence in the athletes. This finding could assist with motivation and confidence research in sport.

Participants understood the responsibility associated with putting together ADM/LTAD. They take pride in developing athletes and understand how critical it could be for others in the sport. Specifically, administrators had a great deal of experience in basketball and this helped shaped ADM/LTAD. They were able to identify pros and cons in the development of athletes and education of coaches and, therefore, inform ADM/LTAD.

It can be concluded that with Canada Basketball's ADM/LTAD, athlete development is a priority, and those who are developing and delivering it are also making it a priority. As was reported by Bruner et al. (2010), there are two very distinctive ways to approach athlete development programs, one being talent identification and the other transition following competitive career. Athlete development programs need to address the entire career of any level of athlete. This is consistent with Balyi, Way, and Higgs (2013) and Ifedi (2008) who reported that LTAD model should be used to help slow the declining rate of physical activity by Canadians.

Considering that all participants were either currently coaching or had previously coached basketball, it was not surprising that they identified coaching quite frequently with ADM/LTAD. The ability of the coach to teach skills through ADM/LTAD then becomes of paramount importance. Leaders within Canada Basketball believed the development of the coach as a teacher must be the primary focus. Coaches must be supported with frequent clinics and other educational resources. Additionally, participants reported that ADM/LTAD allowed for more creative coaching, providing a major framework for changing how the coach's decision making and programming have developed. They felt that ADM/LTAD provided the coach with more creative control in the design and delivery of drills, especially when creating game like situations. Additionally, the NCCP and modules specific to basketball must be in line with ADM/LTAD and each level within ADM/LTAD. Preparing coaches to work with the framework, understand it, and being able to coach at each level effectively and confidently were very important to those interviewed. Considering that the NCCP is where coaches receive their training, it was critical that leaders of the NCCP were aware

of each NSO's LTAD and in turn prepared their materials to be aligned with LTAD. In the present study, participants specifically mentioned the need for NCCP alignment. Similarly, previous research suggested NCCP alignment with LTAD based on the close relationship between coaching and LTAD (Banack, Bloom, & Falcão, 2012; Beaudoin, Callary, & Trudel, 2012). Participants were clear about their support for the NCCP and that LTAD needed to be communicated throughout all coaching materials. They believed that using NCCP training tools was the easiest way to disseminate LTAD to all coaches. This finding is important as the NCCP is Canada's largest contributor to coaches' knowledge of the model. Previous research has also connected the importance of the NCCP in teaching coaches LTAD (Banack, Bloom, & Falcão, 2012; Canadian Sport Centres, 2005).

Early in the interviews, participants identified that having a governing body that would lead and organize the sport within Canada was critical. And that outreach and communication to all members was necessary. This finding was consistent with Black and Holt (2009) suggesting that there was general support for the principle of a nationally coordinated training program. This could be helpful to other NSOs in ensuring the NSO be responsible for the design and delivery of LTAD. Additionally, Black and Holt (2009) recommended consistency in development across ski racing clubs in Canada. It is recommended that NSOs should be creating LTAD at the administrative level and ensuring use by all programs related to developing athletes within the sport. Participants suggested that by using various methods; internet, coach education, and word of mouth, ADM/LTAD was being distributed and used. The participants believed that this was due to having support structures in place to assist those using LTAD. This finding is in

contrast with Ford et al. (2011) who suggested that coaches were not being successfully educated or supported. Although the coaches involved in the present study found issues with navigating the materials at times, they reported that the support they received from Canada Basketball was excellent. As leaders of Canada Basketball move forward, they may consider keeping communication open with the members and continue to ensure they maintain this relationship. Martindale, Collins, and Abraham (2007) suggested there should be open communication between parties involved and a variety of support networks for the athletes.

Participants discussed the importance of continued improvement in ADM/LTAD and its delivery. They wanted to see the basketball community continually updating the framework. Canada Basketball has been committed to making sure that there have been continuous updates to their version of ADM/LTAD. This is evident through the interviews and document review conducted as part of this research project. Canada Basketball's ADM/LTAD framework represented a great example with which to assist other NSOs in developing their version of an LTAD.

Challenges

Participants in the present study identified that, at the core of the message in athlete development from the NSO, was importance to excel on the international stage. Participants noted that part of their job was to prepare athletes to win at the international level, however they also indicated that they needed to be cognizant of developing all athletes who showed an interest in basketball. Previous research associated with LTAD appears to corroborate the findings in the present study that athlete development programs must consider all athletes equally rather than, focusing more on athletes who

are on extreme ends of the spectrum. For example, the beginner athlete or the elite international athlete (Black & Holt, 2009; Ford et al., 2011; Green, 2007; Martindale et al., 2005, 2007). NSOs need to ensure that their materials and messages include a balanced plan for all levels of athletes, and focus and priority is given to every level of development.

Participants revealed that they sometimes felt overloaded with their administrative duties. Specifically, participants identified paperwork and administrative duties as their main concerns. They felt these impacted how much time participants had to interact with athletes, impacting what they felt they should focus on, namely athlete development. Considering that many individuals in amateur sport are volunteers and that it can be difficult to recruit and retain volunteers, this might be an issue that cannot be completely resolved. One of the ways that Canada Basketball was attempting to support administrators, learning facilitators, and coaches with the amount of work that volunteers must do is by constantly reviewing the way that ADM/LTAD is accessed by all members. They have attempted to make it as easy and user friendly as possible. They have done this by using a web-based platform that is accessible any day at any time. Participants also understood that even though the NSO made strides in access to resources and communication avenues, every member requires time to become familiar with and understand ADM/LTAD. As ADM/LTAD is disseminated, the stress of administrative duties should be addressed. Additionally, Canada Basketball made administrative duties a priority and continues to strive to support all members. Desjardins (1996) alluded to the multitude of organizational tasks of team-sport coaches suggesting that administrative duties have been an issue for many years.

Although there was overwhelming support for ADM/LTAD and the development of fundamental movement skills, participants felt there was a lack of information on the elite or competitive stream. The participants felt that there should be more emphasis in this area to protect the athletes from being taken advantage of by adults. Although previous research (Ford et al., 2011; Lang & Light, 2010) identified an overemphasis on elite development, participants in the present study felt that there was a lot of information for the FUNdamentals and earlier stages in ADM/LTAD and not as much for the elite levels. Additionally, the participants in the present study did not report any athletes being taken advantage of, however they cautioned against it.

Even though ADM/LTAD was considered a good development model for the athlete overall, participants reported that they found it difficult to stay current with the material. This was mainly because there was so much information and material to read. Specifically, participants found that there were barriers in the framework that acted as challenges for the coaches to implement ADM/LTAD fully. These tended to focus on communicating and helping everyone understand ADM/LTAD as a framework. Further to this, participants reported getting the parents to understand and accept ADM/LTAD was difficult. Black and Holt (2009) had a similar finding with parents having issues in understanding LTAD. One of the suggestions made by the participants of the present study was to ensure that coaches, athletes, parents, and others involved in sport become more educated on using ADM/LTAD as a philosophy for athlete development from cradle to grave. Similarly, Beaudoin, Callary, and Trudel (2012); and Black and Holt (2009) made suggestions that athlete development models are disseminated equally and comprehensively through an NSO or PSO/TSO.

A shortcoming in the Canadian sport system in general and with LTAD was that they are focused on skill and elite athlete development (Bruner et al., 2010; Ford et al., 2011; Sutcliffe Group, 2010). Evidence of this was found in both Canadian Sport Policy and S4L documents (Canadian Sport Centres, 2005; Sport Canada, 2002a). These concerns were in part supported by the results of the present study. Participants identified a focus on elite development and that, at times, the lifelong activity emphasis was not consistent. They did not attribute this to ADM/LTAD, but to having those not directly involved in the delivery of ADM/LTAD, specifically parents. Not only was there the perception that the program might not be addressing the elite levels at Canada Basketball but also that when an athlete is talented, the parents are more interested in having the athlete develop for the professional ranks rather than active for life. Further to this, participants associated having issues with securing "buy-in" from parents and some coaches. As previously stated, this seemed to be an overall issue with athlete development programs (Ford et al., 2011). It is important that these issues are not continually perpetuated worldwide.

The present study suggested that although there were problems, these could be overcome by creating development programs which put the needs of the athlete first. One way would be to develop the knowledge for parents and athletes regarding the connection between fundamental and active for life and elite development components of LTAD. Participants also determined that the influence of the professional leagues on minor basketball influences decisions made by the NSO. This could be a reason for the focus on elite athlete development as mentioned earlier. It would be beneficial to investigate this

further and try and determine if there is a way to improve this perception of the message and support coming from the NSO.

Finally, participants seemed to be concerned that although LTAD was reaching Canada Basketball members, it was not reaching everyone who was delivering basketball programs. They identified the school system as one prominent area where there is a gap in athlete development. The school system was reported by many participants to be where many athletes are first exposed to basketball. Many schools in Canada introduce basketball through their physical education curriculum as well as through school based male and female basketball teams. Participants were concerned that young athletes are learning one set of rules and strategies in school and then following a different set of rules and strategies when they join a club. Schools were an area where ADM/LTAD could be applied. It is important that the international governing body for basketball (FIBA) and the governing body for school basketball be consistent so that athletes are not having to learn two versions of the same game. Participants felt that the NSO should be the only organization that creates, administers, and delivers basketball for all of Canada. It is suggested that ADM/LTAD should be the only athlete development model that all basketball organizations across Canada would have to adopt and follow.

A motivating reason for undertaking the present study was to add to the body of research on LTAD investigating administrator's, learning facilitator's, and coach's perceptions of how their sport organization adapted and implemented LTAD. It was thought that it would be a good first step to understanding the impact of LTAD on sport organizations, coaches, and athletes. It was also determined that more research was required to understand how coaches learn and apply the principles of LTAD.

Coaches were identified as a key component of athlete development because of their role in building the sport environment and their influence on athletes' growth and development. Consistent with the present study, Banack, Bloom, and Falcão (2012) found that through a coach education program, coaches learned the core principles of LTAD, and they were successful in implementing these practices into their coaching. Additionally, there was limited research on administrators and their role in LTAD (Balyi & Hamilton, 2009; Black & Holt, 2009; Grange & Gordon, 2004; Lang & Light, 2010; Stafford, 2005; Sullivan, Whitaker-Campbell, MacKay, 2010). A result that was important was the administrator's role in creating LTAD and its framework. They wanted to ensure Canada had a framework that places the athlete first with the focus being fundamental development and teaching games sense. Administrators also wanted LTAD to support the athlete being the centre and developing the whole person, recognizing that life skill development although not expected in sport development can be achieved with a program that is purposefully created to develop the whole person.

During the time of data collection for the present study, NSOs were being given the task to create LTAD for their specific sport. It has been suggested that Sport Canada and S4L need to be more proactive in communicating LTAD, especially where coaches are concerned. After reviewing the results of the present study, this suggestion was altered. Based on the success and the feedback from the participants, leaders within NSOs are the best creators and modifiers of LTAD for their individual sports. Further, considering that NSOs also create the materials for coach education, they should be the creators of materials for LTAD, based on Ford et al.'s (2011) suggestion and the results of the present study.

Positive Youth Development

Positive youth development is the general term used in the literature for the promotion of any number of desirable competencies or outcomes in young people. Such competencies might include becoming a caring and ethical individual, developing a general sense of self-worth, having a positive future orientation, and learning how to adapt to different environments (Danish, Forneris, & Wallace, 2005). By its nature, then, positive youth development is a broad notion that includes the development of diverse competencies that can help a young person in sport, in their current life and/or in their future. Within the past 15 years, positive youth development has been the object of numerous studies (Abbott & Collins, 2004; Baker et al., 2003; Beamer, Côté, & Ericsson, 1999; Coakley, 2011; Ericsson, 2003; Fraser-Thomas, Côté, Deakin, 2008; Holt, 2016; Larson, 2000; Lerner, Phelps, Forman, & Bowers, 2009; Martindale, Collins, & Abraham, 2007; Martindale, Collins, & Daubney, 2005).

Even though positive youth development was not identified in previous LTAD materials or found in ADM/LTAD documents from Canada Basketball, it was identified in the results of the present study. Life lesson development and whole person/athlete-centred development were results associated with positive youth development. These were important results as they are not solely focused on the physical aspect of athlete development but also focused on the cognitive and affective aspects of the individual. The skills developed in the cognitive and affective aspects of the individual were not sport-specific and could be transferred to other areas of the individual's life. Outcomes associated with positive youth development are frequently labeled within the sport psychology literature as life skills, which refer to a range of behavioral and cognitive

skills that can be developed in sport and subsequently transferred and applied in non-sport settings (Gould & Carson, 2008). Participants in the present study felt that ADM/LTAD had opportunities for life lessons to be learned through basketball. These life lessons were identified as setting goals, socializing, and communicating well with other players and adults, and making informed decisions. Life lessons were described as skills which assisted the players on and off the court. An important notion to consider is that for a skill learned in sport to qualify as a life skill, it must be transferred and be successfully applied beyond sport (Danish, Forneris, & Wallace, 2005). Danish, Forneris, and Wallace (2005) stated, "the lasting value of a sport experience lies in the application of the principles learned through participation and then transferred to other areas" (p. 49). Considering the importance of transfer future research could study the transfer of life lessons through sport.

The second area of positive youth development that was found in the results was the development of the whole child. Initially during the literature review for the present study, a concern of minimizing the need to develop the whole child was identified (Ford et al., 2011; Oliver, Lloyd, & Meyers, 2011). The present study found the opposite, that ADM/LTAD very much supported and emphasized whole athlete/child development. Participants spoke highly of the importance of teaching the whole child and how this has aided in developing the game of basketball and life skills in athletes. This is consistent with a growing body of research which suggested that athletic development programs would be more successful if aspects of the whole child were developed (Bruner, Erickson, McFadden, & Côté, 2009). Considering that this concept was found in the Canada Basketball materials and not in the S4L materials, this was a direct reflection of

what Canada Basketball has identified as a priority. Participants reported that players were being developed from a whole person perspective and ADM/LTAD had been a catalyst for this. Based on the results of life lesson and whole person development, and the vast amount of research which supports these findings, S4L, NCCP, and NSOs creating LTAD should consider adding life skill and whole person development to their materials.

The results from the present study contradicted Ford et al. (2011) suggestion that there is no merit or empirical evident to support LTAD. The present study found that those implementing LTAD see merit and empirical evidence in Canada Basketball's ADM/LTAD. Further, in reviewing Canada Basketball's materials, it was noted that they have incorporated evidence. This would suggest that Canada Basketball's ADM/LTAD building on S4L's has been successful. I believe that the present study can add empirical evidence to the value of LTAD for sport organizations.

Chapter 6

Conclusions

Limitations

Several limitations of this study should be noted. First, it was an exploratory, qualitative case study of an NSO's perceived benefits and challenges rather than an evaluation of LTAD efficacy or effectiveness. Future research is required to establish if LTADs reach their performance and participation goals and how these goals are tied to LTAD. The findings from the type of case study used in the present study usually provide detailed information about a small number of cases and have limited generalizability. Rather, qualitative studies typically can be regarded as having some level of naturalistic generalizability (Patton, 2002), meaning that the findings may generalize to similar types of situations to those studied in the present study.

In examining the perceived benefits and challenges of ADM/LTAD, I did not assess individual differences and psychological characteristics varying across administrators, learning facilitators, and coaches. These issues require further attention through future research. The methodological rigour through which I pursued the research question can be considered a strong point.

A limitation to the study was not including the participants who were not adhering to or using ADM/LTAD. Not including these participants was not intentional but when requesting participants for the present study I selected those participants who indicated interest in the study. Further there was a gender imbalance in the participant pool. To understand the unbalanced gender distribution with the participants, I contacted Canada Basketball to inquire what their gender distribution was in each of the three participant

categories. Appendix E provides a distribution of males and females in Canada Basketball as reported by Dawn Smyth Manager – Coach Education and Development (2016).

It seems that on a national level, Canada Basketball has tried to ensure a gender balance in all three participant categories. On a provincial level, there appears to be more of a gender imbalance. This does not explain why there were more men who responded to the request for participants. In the future, it would be important to purposefully recruit more women to have an even gender balance.

Implications

There were some suggestions for coaching programs such as the NCCP which were uncovered during the data analysis; coaches should review and understand LTAD, reaching out for support if they do not understand it. There should be accountability connected to the use and understanding of LTAD either through the NCCP or the NSO. Perhaps having coaches submit plans will assist in checking on their use and understanding. Every NSO should have a designated person that coaches can connect with to request material and assistance with LTAD. An ongoing audit and assessment of LTAD should be developed and provided to NSOs to send out to their membership to provide feedback and suggestions on how to improve and what the best practices are in relation to LTAD.

Considering that LTAD is used by all NSOs in Canada there should continue to be an inclusion of LTAD in the NCCP modules for each sport. There was coherence between the research questions and methodological approach (Morse, Barrett, Mayan, Olson, & Spiers, 2002) in that individuals who shared the topic of interest were studied.

The sample was appropriate because I specifically focused on one NSO but obtained a broad range of perspectives (Stake, 2005).

National and Provincial/Territorial sport leaders should work together to find ways to alleviate the many demands placed upon administrators, learning facilitators, and coaches; reviewing all parts of LTAD to ensure that they are being carefully planned and considered. Future research would be helpful in finding which specific areas of the administrators', learning facilitators', and coaches' work create the most demand and overload.

The present study adds to the athlete development framework literature. This would support lifelong development. Even though LTAD is perceived as an important tool, Bruner et al. (2010) suggested that there was no evidence to support that it promotes lifelong development. The present study's findings are a useful addition to the literature because they identified the importance of a well thought out and established LTAD for an NSO. It is believed that participants will continue to improve and use LTAD. However, further research is required to establish how specific 'best practices' actually affect the development of talented basketball players. Finally, even though I can conclude that Canada Basketball has a positive and productive version of LTAD. I still question whether this reflects Canada Basketball or S4L, or both? I have been able to identify some recommended priorities for Canada Basketball (see table 3)

Priority Recommendations for Canada Basketball

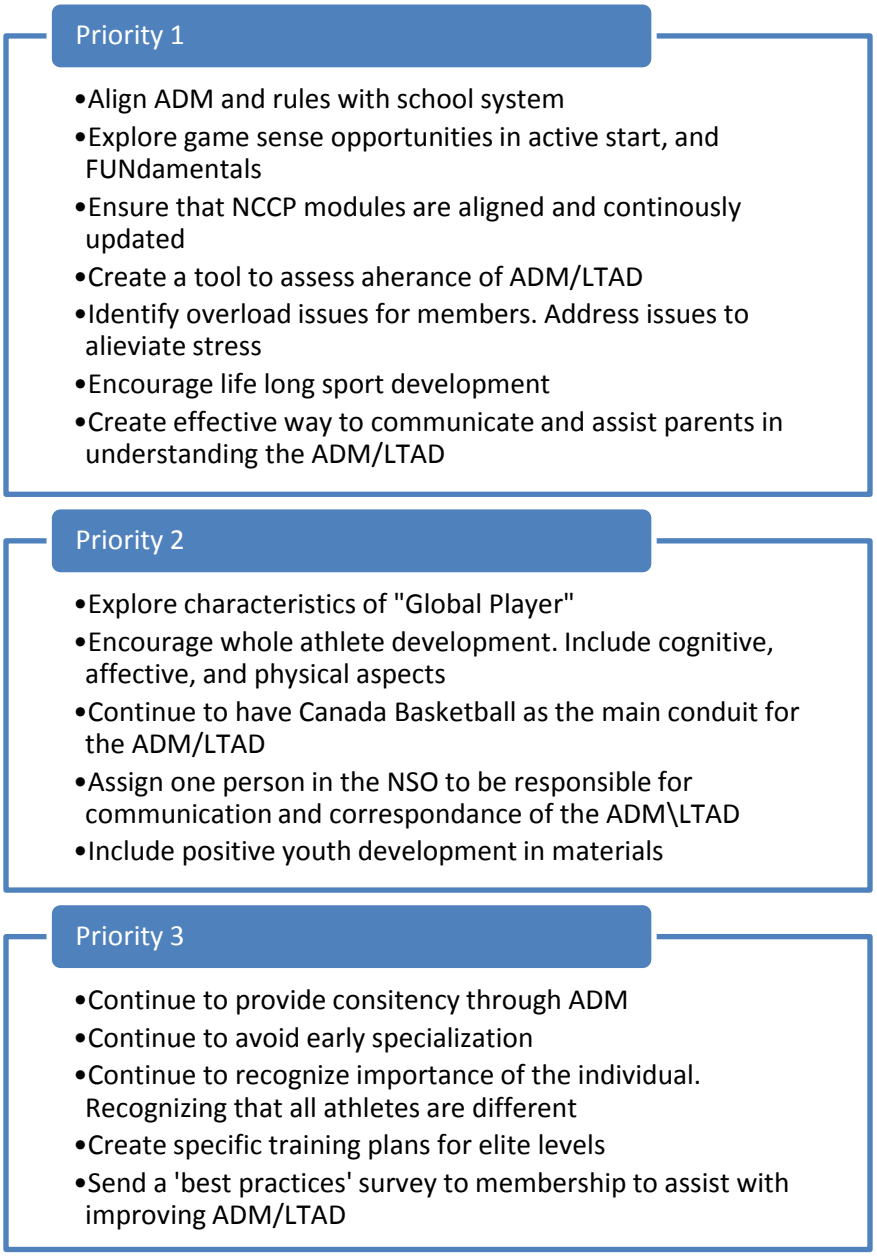


Table 3- Priority Recommendations for Canada Basketball

Future Directions

The findings of this study have implications for policy documents, such as Canadian Sport Policy (CSP), and Long-Term Athlete Development (LTAD). Based on the present study's results, it would be worthwhile to study a variety of PSOs/TSOs and

NSOs. Additionally, it might be worthwhile to investigate other NSOs and their experiences with their LTAD to determine best practices and areas for improvement. I would suggest studying basketball again in the future to determine if there have been any changes based on the recommendations of the present study. Considering that the concept of physical literacy was deemed to be important both in previous research and in LTAD specifically, future research should explore the relationship between LTAD and physical literacy.

According to Turnnidge, Côté, and Hancock (2014), the process of facilitating life skills transfer can be approached in two ways: the implicit approach and the explicit approach. Within the implicit approach, coaches do not employ intentional strategies to teach transfer, yet athletes can implicitly develop assets and skills based on their lived sport experiences and then transfer these life skills if they deem them useful in other areas of life. The explicit approach refers to coaches who intentionally teach life skills, while emphasizing the transfer of these skills to other life domains.

This would be another area of research that could assist in improving LTAD. It was clear that there was a need to investigate physical literacy and how it affected athlete development and how physical literacy was integrated in LTADs. Building on this, researching the effectiveness of fundamental movement skills and physical literacy in LTAD is warranted.

Another suggestion based on the current study would be to assist parents and athletes understand the importance of focusing on LTAD from FUNdamentals development to active for life. Considering that there are a small percentage of athletes who make it to the elite levels of sport, it is important to educate athletes and parents on

lifelong activity. Elite development is only one component of sport organizations and consequently, being committed to developing all stages of LTAD is critical for Canada Basketball.

NSOs are being given the task to create LTAD for their specific sport. It has been suggested that Sport Canada and S4L need to be proactive in implementing LTAD, especially where coaches are concerned. Based on the success and the suggestions of the participants in the present study NSOs are the best creators and modifiers of LTAD for their individual sports. It is important moving forward that NSOs solicit and involve all members in LTAD framework planning and preparation stages. There was evidence in the present study that Canada Basketball involved some coaches in this process. These coaches were reported as being involved with Canada Basketball for a long time and not only did they feel pride and motivated by helping with this process, they were respected by other members of the NSO. Further considering that NSOs also create the materials for coach education they would then be the best to create the materials for LTAD to ensure alignment between coach education and LTAD materials. To further this if schools continue to offer basketball through physical education curriculum and school-based basketball teams, the Ministry overseeing education for each Province/Territory should be consulting with Canada Basketball to ensure consistency in best practice and rules across the country. It is my recommendation that school-based basketball programs should follow modified FIBA rules in the future.

LTAD provides resources and direction for coaches from novice to expert. Coaches might be developing global players or individual athletes or life skills, without ever having to consider it. However; by having a sound framework with which to coach,

coaches have a better chance of developing athletes in the most advantageous way. This may be something that will improve over time, as coaches perceive the benefits of using LTAD.

Summary

At the beginning of this study, it was not clearly understood how administrators, learning facilitators, and coaches of PSO/TSOs and NSOs, were interpreting, understanding and applying LTAD. One of my main areas of focus was to recognize that although the S4L has a general design for LTAD, it was simply a framework to be interpreted and applied to NSOs.

As previously reported there was concern in research that communication and the development of LTAD framework was lacking. I conclude based on the present study's results that there have been significant improvements. As organizations structure and use LTAD, they may improve their LTAD based on feedback from members and research recommendations. It was also determined in the present study that administrators valued having consistency in programming and development across the country. Those given this task in the NSO must therefore be knowledgeable and have the best interests of individual athletes as their focus. The combination of a unique purpose/research question with a rigorous methodology may enable this study to add to whole athlete/athlete-centred development knowledge and open some new avenues of LTAD research. When there are passionate administrators, learning facilitators, and coaches who make it their mission to increase the positives and make athlete development the priority we will continue to see sound athlete development frameworks.

Ultimately, the goal of this dissertation was to produce innovative research that has the potential to both contribute to the leading edge of our academic knowledge base and enable positive real-world change for individuals, sport and youth organizations, and communities. By combining ADM/LTAD with a context-specific examination of Canada Basketball, the present research demonstrated the potential, but not inevitability, for ADM/LTAD to positively influence athlete development. Working toward this end, the results offered new information to further our understanding of ADM/LTAD from three different perspectives but also identified several avenues where much future research is needed. It is hoped the present work can provide a foundation for future developments in both the practical and research dimensions of athlete development and increase the contribution of sport participation to positive athlete development overall.

This dissertation emphasizes the potential athlete development programs have in promoting positive athlete development. Focusing on asset building within programs, positive identity, will allow athlete development programs to market themselves as venues for not only physical, motor, and psychosocial development (Fraser-Thomas et al., 2005) but also for positive personal development. As Canadian families believe that sport is the optimal vehicle to promote positive values for youth (Canadian Centre for Ethics in Sport, 2010), athlete development programs need to be more deliberate in their efforts to promote positive youth development. Coaches, parents, and volunteers within NSOs, PSO/TSOs, and LOs should be made aware of the importance of their roles and specific actions that should be promoted to produce positive results in athletes. A deliberate delivery of athlete development programs focused on the development of

positive athletes will enhance the experiences of athletes in sport and give them the skills necessary to become healthy and active citizens.

Bibliography

Abbott, A., & Collins, D. (2002). A theoretical and empirical analysis of a 'state of the art' talent identification model. *High Ability Studies, 13*, 157-178.

Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal Sport Sciences, 22* (5), 395-408.

Abbott, A., Collins, D., Martindale, R. & Sowerby, K. (2002). *Talent identification and development: An academic review*. Edinburgh, UK: Sport Scotland.

Abbott, A., & Easson, B. (2002). The mental profile. In B. D. Hale & D. Collins (Eds.), *Rugby tough* (pp. 17-34). Champaign, IL: Human Kinetics.

Abertheny, B., & Russell, D. G. (1987). Expert-novice differences in an applied selective attention task. *Journal of Sport Psychology, 9*, 326-345.

Ackland, T. R., & Bloomfield, J. (1996). Stability of human proportions through adolescent growth. *Australian Journal of Science and Medicine in Sport, 28*, 257-260.

Alfermann, D., & Stambulova, N. (2007). Career transitions and career termination. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (3rd ed.) (pp. 712–733). Hoboken, NJ: John Wiley and Sons.

Alpine Canada Alpin. (1999). *Alpine Integration Model*. Vancouver, BC: Rainbow Press.

Altheide, D. L., & Johnson, J. M. (1994). Criteria for assessing interpretive validity in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 485-499). Thousand Oaks, CA: Sage.

Amaratunga, D., & Baldry, D. (2001). Case study methodology as a means of theory

building: Performance measurement in facilities management organisations. *Work study, 50* (3), 95-105.

Anderson, D. I., & Mayo, A. M. (2015). A skill acquisition perspective on early specialization in Sport. *Kinesiology Review, 4* (3), 230-245.

Ashforth, B. E., & Mael, F. (1996). Organisational identity and strategy as a context for the individual. *Advances in Strategic Management, 13*, 1-25.

Audacity Team (2014). Audacity(R): Free Audio Editor and Recorder [Computer program]. Version 2.1.2 retrieved October 2014 from http://www.audacityteam.org/download/.

Bailey, R., & Morley, D. (2006). Towards a model of talent development in physical education. *Sport, Education and Society, 11*, 211-230.

Baker, J. (2003). Early specialization in youth sport: A requirement for adult expertise? *High Ability Studies, 14*, 85-94.

Baker, J., Abernethy, B., & Cote´, J. (2003). Sport-specific practice and the development of expert decision-making in team ball sports. *Journal of Applied Sport Psychology, 15*, 12-25.

Baker, J., Begats, S., Busch, D., Strauss, B. & Schorer, J. (2012). Training differences and selection in a talent identification system. *Talent Development and Excellence, 4*, 23-32.

Bales, J., & Henwood, D. (2008). Medals Earned, Lessons Learned: Canada at the Athens Olympic. *Coaches Report, 11* (2), 4-14.

Balyi, I. (1990). Quadrennial and double quadrennial planning of athletic training.

Canadian Coaches Association. Retrieved from www.sportdevelopment.org.uk/balyi1990.pdf

Balyi, I. (2001). Sport System Building and Long-Term Athlete Development in British Columbia, *Coaches Report, 8,* 1-8.

Balyi, I. & Hamilton, A. (2004). Long-Term Athlete Development: Trainability in Childhood and Adolescence. Windows of Opportunity. Optimal Trainability. National Coaching Institute British Columbia & Advanced Training and Performance Ltd.

Balyi, I., & Stafford, I. (2005). *Coaching for long-term athlete development*. Leeds, UK: Coachwise.

Balyi, I., Way, R., & Higgs, C. (2013). *Long-term athlete development*. Champaign, IL: Human Kinetics.

Balyi, I., & Williams, C. (2009). *Coaching the young developing performer*. Leeds, UK: Coachwise.

Banack, H. R., Bloom, G. A., & Falcão, W. R. (2012). Promoting long term athlete development in Cross Country Skiing through competency-based coach education: A qualitative study. *International Journal of Sport Science & Coaching, 7,* 301–316.

Beamer, M., Côté, J., & Ericsson, K. A. (1999). A comparison between international and provincial level gymnasts in their pursuit of sport expertise. Paper presented at the 10th Annual European Congress of Sport Psychology, July 7-12. Prague, FEPSAC.

Beaudoin, C., Callary, B., & Trudel, F. (2012). Coaches' implementation of Sport

Canada's long-term athlete development model. Manuscript submitted for publication.

Black, D. E., & Holt, N. L. (2009). Athlete development in ski racing: Perceptions of coaches and parents. *International Journal of Sports Science and Coaching, 4*, 245-260.

Bloom, B. S. (1985). *Developing talent in young people*. New York, NY: Ballantine.

Bogdan, R. C., & Biklen, S. K. (2003). Qualitative research in (validation) and qualitative (inquiry) studies. In R. C. Bogdan & S. K. Biklen (Eds.), *Qualitative research for education: An introduction to theory and methods* (pp. 7-42). Boston MA: Allyn & Bacon.

Bompa, T. (1995). *From childhood to champion athlete*. Toronto, ON: Veritas Publishing Inc.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9* (2), 27-40.

Bruner, M. W., Erickson, K., McFadden, K., & Côté, J. (2009). Tracing the origins of athlete development models in sport: A citation path analysis. *International Review of Sport and Exercise Psychology, 2* (1), 23-37.

Bruner, M. W., Erickson, K., Wilson, B., & Côté, J. (2010). An appraisal of athlete development models through citation network analysis. *Psychology of Sport & Exercise, 11* (2), 133-139.

Canada Basketball. (2008). Canada basketball athlete development model. Retrieved from http://www.basketball.ca/files/LTAD.pdf

Canada Basketball. (2016a). Steve Nash youth basketball program. Retrieved from

http://www.basketball.ca/en/stevenash/learn-more

Canada Basketball. (2016b). Values, vision and mission. Retrieved from http://www.basketball.ca/en/page/values-vision-and-mission

Canada Basketball. (2017). Canada basketball logo. Retrieved from http://www.basketball.ca/en

Canadian Centre for Ethics in Sport. (2010). Sport Canada strategy on ethical sport 2010. Retrieved from http://canada.pch.gc.ca/DAMAssetPub/DAM-PCH2-sport-sport/STAGING/texte-text/canadian-strategy-ethical-conduct-sport_1417546965576_eng.pdf?WT.contentAuthority=13.0

Canadian Heritage. (2007). The Canadian sport policy. Retrieved from http://sirc.ca/sites/default/files/content/docs/pdf/booklet-eng.pdf Google Scholar

Canadian Heritage (2016), Government of Canada. Canadian sport policy. Available from: http://www.pch.gc.ca/pgm/sc/pol/pcs-csp/2003/polsport-eng.pdf.

Canadian Sport Centres. (2013). Resource paper v.2. long-term athlete development Canadian Sport for Life. Retrieved from http://www.ltad.ca.

Canadian Sport Centres. (2005). Resource paper v.1. long-term athlete development Canadian Sport for Life. Retrieved from http://www.ltad.ca.

Carlson, R. C. (1988). The socialization of elite tennis players in Sweden: An analysis of the players' backgrounds and development. *Sociology of Sport Journal, 5*, 241-256.

Chase, W. G., & Simon, H. A. (1973). Perception in chess. *Cognitive psychology, 4* (1), 55-81.

Coaching Association of Canada. (2016). Learning facilitator.

Retrieved from http://coach.ca/learning-facilitator-p156718

Coaching Association of Canada. (2017), Training and certification. Retrieved from www.coach.ca.

Coakley, J. (2011). Youth sports what counts as "positive development?" *Journal of Sport & Social Issues, 35*, 306-324.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). London, UK: Sage.

Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist, 13*, 395-417.

Côté, J., Baker, J., & Abernethy, B. (2003). From play to practice: A developmental framework for the acquisition of expertise in team sport, in, K. Ericsson (Eds.), Recent advances

in research on sport expertise. (89–114) Champaign, IL: Human Kinetics.

Côté, J., Baker, J., & Abernethy, B. (2007). Practice to play in the development of sport expertise. In G. Eklund, & R.C. Tenenbaum (Eds.), *Handbook of sport psychology* (3rd ed.) (pp. 184–202). Hoboken, NJ: Wiley.

Côté, J., Bruner, M., Erickson, K., Strachan, L., & Fraser-Thomas, J. (2010). Athlete development and coaching. In J. Lyle, C. Cushion (Eds.), *Sports coaching: Professionalisation and practice*, (pp. 63-84). London, UK: Churchill Livingstone.

Côté, J, & Fraser-Thomas, J. (2007). Youth involvement in sport. In P. R. E. Crocker (Ed.), *Introduction to sport psychology: A Canadian perspective* (pp. 266-294). Toronto, ON: Pearson Prentice Hall.

Côté, J., & Hay, J. (2002). Children's involvement in sport: A developmental perspective. In J.M. Silva & D. Stevens (Eds.), *Psychological foundations of sport* (pp. 484-502). Boston, MA: Merrill.

Côté, J., Lidor, R., & Hackfort, D. (2009). ISSP position stand: To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *International Journal of Sport and Exercise Psychology, 7*(1), 7-17.

Côté, J., & Salmela, J. H. (1996). The organizational tasks of high-performance gymnastic coaches. *Sport Psychologist, 10*(3), 247-260.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods/approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: A longitudinal study of their development*. New York, NY: Cambridge.

Csikszentmihalyi, M., Whalen, S., Wong, M., & Rathunde, K. (1993). *Talented teenagers: The roots of success and failure*. New York, NY: Cambridge.

Danish, S. J., Forneris, T., & Wallace, I. J. (2005). Sport-based life skills programming in the schools. *Journal of Applied School Psychology, 21*, 41–62.

Deakin, J. M., & Cobley, S. (2003). A search for deliberate practice: An examination of the practice environments in figure skating and volleyball. *Expert performance in sports: Advances in research on sport expertise*, 115-135.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality, 19*(2), 109-134.

Denzin, N. K. (1989). *The research act* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Denzin, N.K., & Lincoln, Y.S. (2005). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage.

Desjardins, G., Jr. (1996). The mission. In J. H. Salmela (Ed), *Great job coach! Getting the edge from proven winners (*pp. 69-100). Ottawa, ON: Potentium.

Deutscher Tennis Bund, (1992). Bundesligen. Retrieved from: http://www.dtb-tennis.de/

Devers, K. J. (1999). How will we know" good" qualitative research when we see it? Beginning the dialogue in health services research. *Health services research, 34*(5 Pt 2), 1153–1188.

Dowling, M. S. (2014). Under new governance? Examining the role of Canadian Sport for Life in sport policy and governance. (Unpublished doctoral dissertation). University of Alberta, Edmonton, Alberta, Canada.

Durand-Bush, N., & Salmela, J. H. (2002). The Development and Maintenance of Expert Athletic Performance: Perceptions of World and Olympic Champions. *Journal of Applied Sport Psychology, 14*, 154-171.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building from Cases: Opportunities and Challenges. *Academy of Management Journal 50*(1), 25–32.

Entwistle, N. J. (1987). *Understanding classroom learning*. London, UK: Hodder and Stoughton.

Entwistle, N. J., & Kozeki, B. (1985). Relationships between school motivation, approaches to studying, and attainment in among British and Hungarian adolescents. *British Journal of Educational Psychology, 55,* 124-137.

Ericsson, K. A. (1998). The scientific study of expert levels of performance: General implications for optimal learning and creativity. *High Ability Studies, 9,* 75-100.

Ericsson, K. A. (2003). Development of elite performance and deliberate practice: An update from the perspective of the expert performance approach. In J. L. Starkes & K. A. Ericsson (Eds.), *Expert performance in sports* (pp. 49-83). Champaign, IL: Human Kinetics.

Ericsson, K. A., Krampe, R. T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*, 363-406.

Ericsson, K. A., & Lehmann, A. C. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review Psychology, 47*, 273-305.

Esterberg, K. G. (2002). *Qualitative methods in social research*. Boston, MA: McGraw-Hill.

Ferguson, S. (2014). A case of early sports specialization in an adolescent athlete. *Journal of the Canadian Chiropractic Association, 58*(4), 377-383.

Fitzgerald, L. & Dopson, S. (2009). Comparative case study designs: Their utility and development in organizational research. In D. Buchanan & A. Bryman (Eds.), *The SAGE Handbook of Organizational Research Methods* (pp. 465-483). London, UK: SAGE.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12* (2), 219–245.

Ford, P., De Ste Croix, M., Lloyd, R., Meyers, R., Moosavi, M., Oliver, J., Till, K., & Williams C. (2011). The long-term athlete development model: Physiological evidence and application. *Journal of Sports Science, 29*(4), 389-402.

Fraser-Thomas, J. L., Côté, J., Deakin, J. (2008). Understanding dropout and prolonged engagement in adolescent competitive sport. *Psychology of Sport and Exercise 9*(5), 645–662.

Fraser-Thomas, J. L., Côté, J. & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10*(1), 19–40.

George, A. L., & Bennett, A. (2005). Case studies and theory development in the social science. Cambridge, MA: MIT Press.

Gilbert, W. D., & Trudel, P. (2004a). Role of the coach: How model youth team sport coaches frame their roles. *The Sport Psychologist, 18*, 21-43.

Gilbert, W. D., & Trudel, P. (2004b). Analysis of coaching research published from 1920-2001. *Research Quarterly for Exercise and Sport, 75*, 388-399.

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: Interviews and focus groups. *British Dental Journal, 204*(6), 291-295.

Gladden, J., & Milne, G. (1999). Examining the importance of brand equity in professional Sport. *Sport Marketing Quarterly, 8*(1), 21-29.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York, NY: Aldine.

Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*, 58–78.

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their

development in Olympic champions. *Journal of Applied Sport Psychology, 14*, 172-204.

Gould, D., Feltz, D., Horn, T., & Weiss, M. (1982). Reasons for attrition in competitive youth swimming. *Journal of Sport Behavior, 5*, 155-165.

Gould, D., Greenleaf, C., Lauer, L., & Chung, Y. (1999). Lessons learned from Nagano. *Olympic Coach, 9*, 2-5.

Government of Canada. (2001). National summit on sport. Retrieved from http://publications.gc.ca/collections/Collection/CH24-6-1-2001E.pdf

Grange, J. & Gordon, R. (2004). Success is long term: Long-Term athlete development related to the journey through swimming. Loughborough, UK: Amateur Swimming Association.

Green, M. (2007). Olympic glory or grassroots development? Sport policy priorities in Australia, Canada and the United Kingdom, 1960–2006. *The International Journal of the History of Sport, 24*(7), 921 – 953.

Greenleaf, C., Gould, D., Dieffenbach, K. (2001). Factors influencing Olympic performance: Interviews with Atlanta and Nagano U.S. Olympians. *Journal of Applied Sport Psychology, 13*, 154-184.

Gustin, W. C. (1985). The development of exceptional research mathematicians. *Developing talent in young people*, 270-331.

Harvey, J. & Proulx, R. (1988). Sport and the Canadian state. In J. Harvey & H. Cantelon (Eds.), *Not Just a Game* (pp. 93-119). Ottawa, ON: University of Ottawa.

Helsen, W. F., Starkes, J. L., & Hodges, N. J. (1998). Team sports and the theory of deliberate practice. *Journal of Sport and Exercise Psychology, 20*, 12-34.

Helsen, W. F., Starkes, J. L., & Van Wincel, J. (1998). The influence of relative age on success and drop out in male soccer players. *American Journal of Human Biology, 10*, 791-798.

Holt, N. L. (2016). *Positive youth development through sport* (2nd ed.). London, UK: Routledge.

Horn, T. S. (2015). Social psychological and developmental perspectives on early sport specialization. *Kinesiology Review, 4*(3), 248-267.

Ifedi, F. (2008). Sport participation in Canada, 2005. Statistics Canada, Culture, Tourism and the Centre for Education Statistics.

International Council for Coaching Excellence and the Association of Summer Olympic International Federations. (2012). *International sport coaching framework.* Champaign, IL: Human Kinetics.

Jansen, G., & Peshkin, A. (1992). Subjectivity in qualitative research. In M. D. LeCompte, W. K. Millroy, & J. Preissle (Eds.), *The handbook of qualitative research in education* (pp. 681-725). San Diego, CA: Academic Press.

Kalinowski, A. G. (1985). The development of Olympic swimmers. In B.S. Bloom (Ed.), *Developing talent in young people* (pp. 139-192). New York, NY: Ballantine.

Kidd, B. (1996). *The struggle for Canadian sport*. Toronto, ON: University of Toronto Press.

Kidd, B. (2013). The Olympic Movement and the sports–media complex. *Sport in Society, 16*(4), 439-448.

Kikulis, L. (2000). Continuity and change in governance and decision making in national

sport organizations: Institutional explanations. *Journal of Sport Management, 14*(4), 293-320.

Kikulis, L., Slack, T., & Hinings, B. (1992). Institutionally specific design archetypes. A framework for understanding change in national sporting organizations. *International Review for the Sociology of Sport, 27*, 343-370.

Kikulis, L. M., Slack, T., & Hinings, C. R. (1995). Toward an understanding of the role of agency and choice in the changing structure of Canada's national sport organizations. *Journal of Sport Management, 9*(2), 135-152.

Kirk, D. (2005). Physical education, youth sport and lifelong participation: the importance of early learning experiences. *European Physical Education Review, 11*(3), 239-255.

Kozel, J. 1996. Talent identification and development in Germany. *Coaching Focus, 31*, 5–6.

Lang, M. & Light, R. (2010). Interpreting and implementing a long-term athlete development model: English swimming coaches' views on the (Swimming) LTAD in practice. *International Journal of Sports Science and Coaching, 5*, 389-402.

Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist, 55* (1), 170-183.

Leininger, M. (1994). Evaluation criteria and critique of qualitative research studies. Critical in qualitative research methods. In J. M. Morse (Ed.), *Critical issues in qualitative research methods* (pp. 95-115). Thousand Oaks, CA: Sage.

Lerner, J. V., & Phelps, E. F. Y., & Bowers, E. (2009). Positive youth development.

Handbook of adolescent psychology, 1, 524-558.

Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development: A view of the issues. *Journal of Early Adolescence, 25* (1), 10-16.

Lerner, R. M., Fisher, C. B., & Weinberg, R. A. (2000). Toward a science for and of the people: Promoting civil society through the application of developmental science. *Child Development, 71*, 11-20.

Lincoln, Y. S., & Guba, E. G., (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage.

Lopez, R. L. (2009). Physical literacy for educators. *Physical & Health Education Journal, 75*(3), 27.

Macintosh, D. (1996). Sport and government in Canada. In L. Chalip, A. Johnson, & L. Stachura (Eds.), *National sport policies. An international handbook* (pp. 39-66). Westport, CT: Greenwood Press.

Macintosh, D., Bedecki, T., & Franks, C. E. S. (1987). *Sport and politics in Canada: Federal government involvement since 1961*. Montreal, QC: McGill-Queen's University Press.

Macintosh, D., & Whitson, D. (1990). *The game planners: Transforming Canada's sport system*. Montreal, QC: McGill-Queen's University Press.

Malina, R. M. (2010). Early sport specialization: roots, effectiveness, risks. *Current Sports Medicine Reports, 9*(6), 364-371.

Mandigo, J., Francis, N., Lodewyk, K. & Lopez, R. (2009). Position paper physical literacy for educators. Retrieved from http://www.phecanada.ca/developingphysicalliteracy/pdfs/pl_position_paper.pdf

Mann, C., & Stewart, F., (2000). *Internet communication and qualitative research*.

London, UK: Sage.

Martindale, R. J. J., Collins, D., & Abraham, A. (2007). Effective talent development: The elite coach perspective in UK sport. *Journal of Applied Sport Psychology, 19,* 187-206.

Martindale, R., Collins, D., & Daubney, J. (2005). Talent development: a guide for practice and research within sport. *Quest, 57,* 353-375.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass Publishers.

Miles, M., & Huberman, A. M. (1994). *Qualitative data analysis*. Thousand Oaks, CA: Sage.

Mills, D. J., & Canada. (1998). Parliament House of Commons. Standing Committee on Canadian Heritage. Sport in Canada: Everybody's business: Leadership, partnership and accountability. The Sub-Committee.

Mitchell, W., & Irvine, A. (2008). I'm okay, you're okay? Reflections on the well-being and ethical requirements of researchers and research participants in conducting qualitative fieldwork interviews. *International Journal of Qualitative Methods, 7*(4), 31-44.

Monsaas, J. A. (1985). Learning to be a world-class tennis player. In B. S. Bloom (Ed.) *Developing talent in young people* (pp. 211-269). New York, NY: Ballantine.

Moore, P. M., Collins, D., & Burwitz, L. (1998). *The development of talent study*. London, UK: English Sports Council.

Morgan, T. K., & Giacobbi, P. R. (2006). Toward two grounded theories of the talent

development and social support process of highly successful collegiate athletes. *The Sport Psychologist, 20*, 295-313.

Morrow, D., & Wamsley, K. B. (2013). *Sport in Canada: A history*. Don Mills, ON: Oxford University Press.

Morse, J. M., Barrett, M., Mayan, M., Olson, K. & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(2), 13-22.

Nash, C. S., Sproule, J., & Horton, P. (2011). Excellence in coaching: The art and skill of elite practitioners. *Research quarterly for exercise and sport, 82*(2), 229-238.

Newell, A., & Rosenbloom, P. S. (1981). Mechanisms of skill acquisition and the law of practice. In J. R. Anderson (Ed.) *Cognitive skills and their acquisition* (pp. 1-55). Hillsdale, NJ: Erlbaum.

Ollis, S., MacPherson, A., & Collins, D. (2006). Expertise and talent development in rugby refereeing: an ethnographic enquiry. *Journal of Sports Sciences, 24*(3), 309-322.

Oliver, J. L., Lloyd, R. S., & Meyers, R. W. (2011). Training elite child athletes: Promoting welfare and well-being. *Strength & Conditioning Journal, 33*(4), 73-79.

Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist, 2*, 105-130.

Palmer, C. L., Burwitz, L., Smith, N. C., & Collins, D. (1999). Adherence to fitness training of elite netball players: A naturalistic inquiry. *The Sport Psychologist, 13*, 313-333.

Patton, M. Q. (1990). *Qualitative evaluation and research methods.* Beverly Hills, CA: Sage.

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health services research, 34*(5 Pt 2), 1189–1208.

Patton, M. Q. (2002). *Qualitative research and evaluation methods*, (3rd ed.). Thousand Oaks, CA: Sage.

Parliament of Canada. (2003). Bill C-12: An act to promote physical activity and sport. Retrieved from http://www.lop.parl.gc.ca/About/Parliament/LegislativeSummaries/bills_ls.asp?Language=E&ls=C12&Mode=1&Parl=37&Ses=2&source=library_prb

Physical and Health Education Canada. (2009). FMS: Active start and FUNdamentals stages (K-Grade 3). Retrieved from http://www.phecanada.ca/developingphysicalliteracy/e/whatis_pl/

QDA Miner Lite qualitative test analysis Software. (2015). Provalis Research Ltd. V1.3.

Regnier, G., & Salmela, J. (1987). Predictors of success in Canadian male gymnasts. In B. Petiot, J. H. Salmela, & T. B. Hoshizaki (Eds.), *World identification systems for gymnastic talent*. (pp. 143-150). Montreal, QC: Sport Psyche Editions.

Robertson, S., & Way, R. (2005). Long-term athlete development. Coaches report, 11(3), 6-12.

Rowley, S. (1992). *Training of young athletes study (TOYA): TOYA and lifestyle*. London, UK: The Sports Council.

Salmela, J. H. (1994). Phases and transitions across sport careers. In D. Hackfort (Ed.)

Psychosocial issues and interventions in elite sport, (pp. 11-28). Frankfurt, DE: Lang.

Schlossberg, N. K. (1981). Major contributions. Counseling Psychologist, 9(2), 2-15.

Siedentop, D. (1978). Management of practice behavior. In W. F. Staub (Ed.), *Sport psychology: An analysis of athlete behavior* (pp. 42-48). Ithaca, NY: Movement Publications.

Simon, H. A., & Chase, W. G. (1973). Skill in chess. *American Scientist, 6*, 394-403.

Simonton, D. K. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review, 106*, 435-457.

Sinclair, D. A., & Orlick, T. (1993). Positive transitions from high-performance sport. *Sport Psychologist, 7*, 138-138.

Slack, T., & Hinings, B. (1992). Understanding change in national sport organizations: An integration of theoretical perspectives. *Journal of Sport Management, 6*, 114-132.

Sloboda, J. A., & Howe, M. J. A. (1991). Biographical precursors of musical excellence: an interview study. *Psychology of Music, 19*, 321-332.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28*, 339-358.

Smith, M. (2015). Early sport specialization: A historical perspective. *Kinesiology Review, 4*(3), 220-230.

Soberlak, P., & Côté, J. (2003). The developmental activities of elite ice hockey players. *Journal of Applied Sport Psychology, 15*, 41-49.

Sosniak, L. A. (1985). Learning to be a concert pianist. In B. S. Bloom (Ed.), *Developing*

talent in young people (pp. 211-269). New York, NY: Ballantine.

Sport Alliance of Ontario. (2000). Community Coaching in Ontario: A Study of Community Coach Attitudes and Education Resources. Toronto, ON

Sport Canada (2002a). The Canadian Sport Policy. Retrieved from http://www.pch.gc.ca/pgm/sc/pol/pcs-csp/2003/polsport-eng.pdf.

Sport Canada (2002b) The Canadian sport policy. Federal-Provincial/Territorial priorities for collaborative action 2002-2005. Retrieved from http://www.pch.gc.ca/pgm/sc/pol/actn/action-eng.pdf.

Sport Canada. (2012). The Canadian sport policy. Retrieved from http://www.pch.gc.ca/eng/1358344207961/1358344349282

Sport for Life. (2012). About LTAD. Retrieved from http://www.sportforlife.ca

Sport for Life. (2017). Long term athlete development framework. Retrieved from http://www.sportforlife.ca

Stafford, I. (2005). *Coaching for long-term athlete development: To improve participation and performance in sport*. Leeds, UK: Sports Coach.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stake, R. E. (1998). Case Studies. In N. K. Denzin, & Y. S. Lincoln, (Eds.), *Strategies of qualitative inquiry*. Thousand Oaks, CA: Sage.

Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin, & Y. S. Lincoln, (Eds.), The Sage handbook of qualitative research, (3rd ed.) (pp. 443-466). Thousand Oaks, CA: Sage.

Starkes, J. L. (2000). The road to expertise: Is practice the only determinant?

International Journal of Sport Psychology, 31, 431-451.

Starkes, J. L., Deakin, J. M., Allard, F., Hodges, N. J., & Hayes, A. (1996). Deliberate practice in sports: What is it anyway? In K. A. Ericsson (Ed.), *The road to excellence: The acquisition of expert performance in the arts and sciences, sports, and games* (pp. 81-106). Mahwah, NJ: Lawrence Elbaum.

Stambulova, N. B. (1994). Developmental sports career investigations in Russia: A post-Perestroika analysis. *The Sport Psychologist, 8*, 221-237.

Strauss, A., & Corbin, J. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd ed.). Thousand Oaks, CA: Sage

Sternberg, R. J. (2000). Giftedness as developing expertise. In K. A. Heller, F. J. Monks, R. J. Sternberg, & R. F. Subotnik (Eds.), *International handbook of giftedness and talent* (pp. 55-66). Amsterdam, NL: Elsevier.

Sullivan, P. J., Whitaker – Campbell, T. & MacKay, M. (2010). Physical literacy in coaching education materials: A case study of Canada basketball. *Physical and Health Education Journal, 76*(1), 32–35.

Sutcliffe Group. (2010). Evaluation of the Canadian sport policy. Retrieved from http://www.sirc.ca/CSPRenewal/documents/CSP_Evaluation_Final_ReportEN.pdf

Tenebaum, G., Sar-El, L., & Bar-Eli, M. (2000). Anticipation of ball locations in low and high skilled performers: A developmental perspective. *Psychology of Sport and Exercise, 1*, 117-128.

Thomas, G. (2015). *How to do your case study*. Thousand Oaks, CA: Sage.

Thibault, L. & Kikulis, L. M. (2011). Chapter 17. Canada In M. Nicholson, R. Hoye, & B, Houlihan, B. (Eds.), *Participation in sport: international policy perspectives* (pp. 268-293). Abingdon, UK: Routledge.

Thibault, L., & Harvey, J. (Eds.). (2013). *Sport policy in Canada*. Ottawa, ON: University of Ottawa Press.

Torres, C. R. (2015). Better early than late? A philosophical exploration of early sport specialization. *Kinesiology Review, 4*(3), 304-317.

Trudel, P., & Gilbert, W. D. (2006). Coaching and coach education. In D. Kirk, M. O'Sullivan, & D. McDonald (Eds.), *Handbook of physical education* (pp. 516-539). London, UK: Sage.

Turnnidge, J., Côté, J., & Hancock, D. J. (2014). Positive youth development from sport to life: Explicit or implicit transfer? *Quest, 66*, 203–217.

Tushman, M. L., Newman, W. H., & Romanelli, E. (1986). Convergence and upheaval: Managing the unsteady pace of organizational evolution. *California Management Review, 29*(1), 29-44.

Vaeyens, R., Lenoir, M., Williams, A. M., & Philippaerts, R. M. (2008). Talent Identification and development programmes in sport. *Sports Medicine, 38*(9), 703-714.

Vallée, C. N., & Bloom, G. A. (2005). Building a successful university program: Key and Common elements of expert coaches. *Journal of Sport Psychology, 17*(3), 179-196.

Van Lieshout, C. F. M. & Heymans, P. G. (2000). Introduction. In C. F. M. Van Lieshout

& P. G. Heymans, (Eds.). *Developing talent across the life-span*. Philadelphia, PA: Psychology Press.

VanWynsberghe, R. & Khan, S. (2007). Redefining case study. *International Journal of Qualitative Methods, 6*(2), 1-10.

Wallingford, R. (1975). Long distance running. In A. W. Tayler & F. Landry (Eds.), *The scientific aspects of sport training* (pp. 118-130). Springfield, IL: Charles C. Thomas.

Ward, P., & Williams, A. M. (2003). Perceptual and cognitive skill development in soccer: The multidimensional nature of expert performance. *Journal of Sport and Exercise Psychology, 25*, 93-111.

Whitehead, M., Ed. (2016). Definition of physical literacy and clarification of related issues. ICSSPE Bulletin, 65, 1.2.

Wylleman, P., & Lavallee, D. (2004). A developmental perspective on the transitions faced by athletes. In M. R. Weiss (Ed.), *Developmental sport psychology: A lifespan perspective* (pp. 507-527). Morgantown, VA: Fitness Information Technology.

Yesseldyke, J. E., & Christenson, S. L. (1987). Evaluating students' instructional environments. *Remedial and Special Education, 8*(3), 17-24.

Yin, R. K. (1994). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.

Yin, R. K. (2009). *Case study research: design and methods. Essential guide to qualitative methods in organizational research* (4th ed.). Thousand Oaks, CA: Sage.

Yin, R. K. (2011). *Applications of case study research*. Thousand Oaks, CA: Sage.

Yin, R. K. (2013). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.

Appendix A

Canada Basketball AMD/LTAD Materials (Canada Basketball, 2008)

1. FUNdamentals

All participants need to learn basic fundamental movement skills at the appropriate stages of development. Since the nervous system develops fast in children, movement skills that involve the nervous system need to be active at this time. These include the ABCs of agility, balance, coordination, and speed. If children do not learn these at the appropriate time in their development, they might not reach their fullest potential in the future. They must recognize the difference between physical literacy and physical activity. Physical literacy is the development of fundamental movement skills and fundamental sport skills that permit a child to move confidently and with control, in a wide range of physical activity, rhythmic (dance) and sport situations. Physical literacy also includes the ability to "read' what is going on around them in an activity and react appropriately to those events. This also means a child is able to effectively move the body in all planes of the body (See www.ltad.ca; Developing Physical Literacy: A Guide for Parents of Children Ages 0 to 12). The physically active child is energetic and on the go. This is important for maintaining health. The problem is that if a child does not learn how to move properly he/she limits their choices of physical activity at a later stage of LTAD. For example; if a child's only physical activity is walking at a younger stage what sports may this child move into in later life?

Recommendations:

•Education of parents, coaches and administrators is crucial. Informed parents will demand this be delivered to their children: (See www.ltad.ca; Canadian Sport

for Life: A Sport Parents Guide and www.basketball.ca: Basketball Parent Guide for LTAD);

•Develop templates that assist parents to plan and implement appropriate fundamental movement development;

•Develop resources that show how these movement skills can be properly taught in a fun way. Many fun playground games naturally teach these skills. It is not always about drills;

•Work to develop relationships across other sports that are delivering sport at these stages of LTAD;

•Fundamental movement needs to be a part of warm up and early season training at all stages of LTAD;

•Athletes need individualized training that focuses on improvement of areas of weakness. Fundamental movement skills cannot always be taught en masse as each child is different.

Rationale:

•Every child is an athlete and needs the proper grounding in movement in order to develop an appreciation for physical activity and therefore derive the health benefits. This will also let them make wiser decisions as to which pathway of sport to choose;

•Educated people will aid in the implementation of LTAD;

•Many weaknesses of sport-specific skills can be linked to ineffective or poorly developed movement skills. If the movement skill is not corrected first, the sport skill will suffer. A basketball example is the lay-up. If a child has problem with

skipping, a fundamental movement, he/she will struggle to develop the proper rhythm in executing a lay-up.

2. Specialization

Early specialization in a late-specialized sport, like basketball, has been shown to lead to:

•One-sided sport-specific preparation;

•Lack of the basic fundamental movement skills;

•Overuse injuries;

•Early burnout;

•Early retirement from training and competition and often withdraw from physical activity.

Specialization is not only the concept of specialization in one sport; it is also specialization within the sport. Basketball has continually forced the tall player to play in the "post." Often this has meant the adolescent was not allowed to use all of the skills required to play the game at the later stage of LTAD, when other late maturing players catch up and sometimes pass this player. Specialization has also occurred in their training sessions where coaches tend to focus more on team development rather than player development.

Recommendations:

•During the FUNdamentals, L2T and T2T stages of LTAD coaches need to develop "global" players. These are players who have worked on all the skills and have trained to play every position;

•Individualized training also includes defensive work. A global player also needs to be able to defend all positions on the floor;

•Make use of offences and defences that encourage flexible positioning in the developmental stages of LTAD;

•Review their current elite system. Are they selecting provincial/ national teams too early?

•Fundamental movement skills need to be part of daily warm ups in training and in competition;

•Strategies need to be developed that allow for coaches to account for early, average and children who are late to mature;

•Strategies need to be developed to help with athlete identification versus athlete selection. Currently they are selecting from the players who "show up" to try out. They recognize a need to identify future players and ensure that they receive the proper multi- skilled training at the early stages of LTAD. Many are exiting basketball players in the later stages of LTAD or arrive there without the necessary skills need to compete;

•Means must be found to include athletes with a disability in all stages of programming. Resources need to be developed to show coaches how this can be accomplished.

Rationale:

•Every child is an athlete and needs the proper grounding in movement in order to develop an appreciation for physical activity and therefore derive the health

benefits. This will also let them make wiser decisions as to which pathway of sport to choose;

•The inability to detect the “great athlete” until after maturity;

•Reduce boredom, frustration, burnouts and drop outs;

•Ensure that all children develop the skills necessary to play at the next stage of LTAD if they wish to.

3. Developmental Age

They recognize that not all children grow and mature at the same rate. Females mature faster than males, on average. There is a tendency to apply adult models of sport on children. Too often it is the early maturing athlete who participates in the elite teams during puberty. This is often based on the fact that the early maturing athlete is more aggressive and can physically dominate the other players. Research has shown that very often the late maturing children become the superior athletes since they have more time to develop the fundamental movement skills and sport skills. Also the early maturing athlete, who relies on aggression and strength, often does not learn the skills at a younger age. They do not develop the coping skills needed to survive elite sport when the physical maturity playing field is level. They should be identifying this research and where their information is coming from.

Leagues and associations that use chronological age for cut off dates, build in a natural bias to players born prior to the cut-off date. If the cut-off date is January 1st those players born in December are often one year less mature and therefore are often not selected. Statistics from many sports show this bias in their participation numbers. There is a big concern with the dropout rate of females from sport in their early teens.

Recommendations:

•Apply LTAD wall chart to monitor growth;

• "Mine the data" - all associations need to examine their data to see if age-based biases are being created in their delivery system;

• "Mine the data" to see if male and female biases occur. What impact does co-ed programming have on the retention of females in sport? Special programs must be developed to keep female athletes involved;

•Use single age categories instead of multi-year;

•Educate parents, teachers, coaches and administrators (developmental age and relative age);

•Give templates to the above parties to allow them to easily implement LTAD appropriate training;

•Show coaches and teachers how training of early, late, and average matures can be implemented in a team situation;

•Give opportunities for late maturing athletes to be involved in "select" programs;

•Re-evaluate and re-visit the rationale behind national/provincial championships during developmental stages;

•Develop ways to remove the age bias. For example; age on date for competitions;

•Individualized training must reflect the needs of the child;

•They must find a balance between what is appropriate for the child or adolescent in regard to their physical development and their social/emotional needs.

Rationale:

•Every child is an athlete and needs the proper grounding in movement in order to develop an appreciation for physical activity and therefore derive the health benefits. This will also let them make wiser decisions as to which pathway of sport to choose;

•Many late maturing athletes are dropping out of basketball before they have a chance to excel and withdraw from all sports and physical activity;

•Too many females are leaving sport.

4. Trainability

The majority of coaches worldwide currently design long and short-term athlete training models, as well as competition and recovery programs based on their athletes' chronological age. However, research has shown that chronological age is a poor basis for athlete development models, since the musculo-skeletal and emotional development of athletes between ages 8 and 16 can vary greatly within any given age category. Superimposing a scaled-down version of athlete training and competition models designed for adults is not a good alternative.

Ideally, coaches would be able to determine the biological age of their athletes and use this information as the foundation for athlete development models. Unfortunately, there is no reliable non-invasive procedure to identify biological age. So what can be done to remedy this situation?

One practical solution is to use the onset of the growth spurt or Peak Height Velocity (PHV) as a reference point for the design of optimal individual programs with relation to sensitive periods of trainability. Peak Height Velocity (PHV) is the age at which the rate of growth is fastest.

Prior to the onset of PHV, males and females can train together and chronological age can be used to determine training, competition, and recovery programs. The average age for the onset of PHV is 12 and 14 years for females and males, respectively.

The term trainability refers to the genetic endowment of athletes, as they respond individually to specific training methods and how they adapt to them. In an athlete's development, there are sensitive periods of accelerated adaptation to improvements of endurance, strength, speed and skill, which are often not considered during planning. But these periods are windows of opportunity and must be capitalized upon. They are important to recognize because it is during these sensitive periods, that children and adolescents are physiologically most receptive to acquiring skills and/or improving specific physical attributes such as strength, and endurance.

There are three chronological and two biological markers to indicate the sensitive period.

Research in this area indicates that:

•The sensitive periods for the accelerated improvement of speed and power occur for males between ages 7 and 9 and between ages 13 and 16. For females these occur between age 6 and 8 and between age 11 and 13 (chronological age);

•There is an accelerated improvement for endurance capacities after the onset of Peak Height Velocity (PHV);

•There is an accelerated improvement in strength 12 to 18 months for males after PHV occurs;

•There is an accelerated improvement in strength immediately after PHV occurs and/or the onset of the menarche (the onset of the menstrual cycle occurs usually one year after PHV);

•The sensitive period for motor skill development occurs between ages 8 and 11 for females and between ages 9 and 12 for males. Basic motor skills such as the ABC of Athletics (running, throwing, hopping, bounding and jumping), the ABC's of Athleticism (agility, balance, coordination and speed) form the basis for all sports. By age 11 or 12, or more precisely before the onset of the growth spurt, children should be able to perform these skills proficiently;

•There is full consensus among experts in this area that if physiological abilities are not developed during the sensitive periods, the opportunity for optimum development is lost and cannot be fully retrieved at a later time;

•The onset of PHV and PHV (after growth decelerates) are the reference points for optimal training programs for the development of athletes. Otherwise, adult training programs tend to be superimposed on young athletes with less than optimal outcomes;

•We need to make use of the sensitive periods and develop basic athletic skills and attributes. Once these are mastered, we can introduce and develop more specialized sport-specific skills.

Recommendations:

•Education - all parties need to know when the windows are, why these exist and what appropriate training is;

- Develop a resource that will make it easy for coaches and teachers to apply LTAD appropriate training;
- Make use of LTAD wall chart to monitor PHV;
- Recognize that males and females grow at different rates;
- Reduce competition schedule to actually allow athletes to train;
- Individualized training plans;
- Avoid some traditional practices such as:
    - long slow distance running as the only method to improve aerobic capacity,
    - static flexibility training pre-and post activity,
    - the use of strength training with heavy weights at inappropriate times,
    - lack of speed training in all phases of training.

Rationale:

- Every child is an athlete and needs the proper grounding in movement in order to develop an appreciation for physical activity and therefore derive the health benefits. This will also let them make wiser decisions as to which pathway of sport to choose;
- Trainability is based on scientific research;
- It allows our athletes to maximize their potential.

5. Physical, Mental, Cognitive and Emotional Development

More than just fitness and the skills of the game need to be addressed. All areas of an athlete's development must be included in sport programs. Training, competitive and recovery programs should consider mental, cognitive and emotional development of each

athlete. Decision making is a major point of emphasis. A major objective of LTAD is a holistic approach to athletic development. This includes emphasis on ethics, fair play and character building throughout the various stages, an objective that reflects Canadian values. Programming should be designed considering the athlete's cognitive ability to address these concepts.

Recommendations:

•All deliverers of basketball programming need to review how they are currently developing the physical, mental, and social/ emotional abilities of their athletes. Also, how are ethics and values being taught and modelled within the organization?

•Decision making or "when" to use skills is to be emphasized at all stages of LTAD. This is based on keys that the athlete detects, not on coaches' commands;

•Coaches need to progress athletes through the various stages of LTAD with the goal of creating a self-reliant athlete who has the physical, mental, and social/emotional skills to make their own decisions on their future;

•Work needs to be done in accounting for the differences between female and male athletes;

•We must recognize that athletes with a disability may require special attention;

•Templates need to be developed to aid all parties in delivering holistic training;

•A key component of the new NCCP is the holistic approach;

•Mental and emotional/social training needs to be delivered in conjunction with the physical training. It cannot be seen as an "add on" done outside the practice and competition site;

•Individualized training plans;

•Rewarding players solely on the basis of their physical superiority can lead to societal problems in the future. This has occurred mostly on the male side of the sport, but is becoming a problem on the female side also. Associations must check to see what "subliminal" messages are being sent though team selections, scholarships and awards.

Rationale:

•Every child is an athlete and needs to develop skills, knowledge and comfort in all areas in order to make the best decision in the future for their own well-being;

•Canadians believe that sport has a more important role; more than just producing winners and losers. It has a key role in developing future leaders and positive members of society.

6. Periodization

Periodization is time management. It provides the frame work for arranging all of the pieces in an athlete's training. In order for athletes to develop, they need to plan their training in a more scientific way. At a simpler level, it helps recreational athletes manage their time more effectively and ensures that they are covering all components required for a healthy lifestyle. Proper periodization provides a plan that can be evaluated in the future. This evaluation helps guide future plans. Currently the majority of coaches base their plans on past practices and on the competition schedule. More individualized plans must be developed for athletes even in team sports. Coaches need to be shown ways to maximize the training time they have with their athletes.

Recommendations:

•Educate all parties as to the benefits of periodization;

•Work with the "experts" to develop more team sport friendly periodization. Much of the current research is based on individual sports and is not easily adaptable to the team sport environment;

•Develop templates that show coaches how use periodization at each stage of development. Also, coaches need to be made aware of what to avoid. For example; as the "big" games approach late in the season, coaches should reduce the volume of practice, not increase the length of practice to prepare for the opponent;

•More work must be done to understand the female athlete. We cannot continually push male models onto our female athletes;

•Monitor plans with a "scientific eye" to make decisions on future revisions to the templates;

•Periodization will be part of the new NCCP coaching education;

•Seasons of play must be developed in conjunction with the various deliverers of basketball so that proper periodization can occur;

•We need to establish a positive working relationship with school- based basketball in order to implement proper periodization;

•Individualized training and recovery need to be reflected in the periodization plan;

•Work with other sports to develop proper periodization with the multi-sport athlete at the beginning stages of LTAD.

Rationale:

•In order to maximize an athlete's potential, proper planning must occur in order to ensure all components are met;

•Constantly monitor the plan;

•Innovations and improvements should be monitored to judge their effectiveness;

•All children need to learn time management and planning as a future life skill.

7. Calendar Planning for Competition

The basketball delivery system consists of three streams: health of the nation, develop the game and compete for the nation. Another stream has crept into the delivery system that is beginning to dominate the development stage. They call it "competitive basketball." In this stream, games between 2 teams dominate. Some players are not receiving sufficient time for training.

When practice to competition ratios are at a 1 to 1 or 1 to 2 ratios, quick development may occur, but performance always plateaus later. Coaches may claim that the team improves, but players are not able to work on their fundamental movement and basketball skills. Mental and social/emotional training often gets ignored. Training is dominated by strategies and tactics in preparation for the next game. In many situations, players are not receiving quality playing time. Players therefore do not get an opportunity to use their skills; they lose conditioning, lose interest and drop out of the sport at the younger stages. Often these are late maturing athletes. Their children are currently playing too many games without enough quality training. They have adopted adult models for youth sport. All sports must get a handle on this situation.

Planning and implementing of an optimal competition structure for all stages is the biggest challenge facing team sports in our country.

Recommendations:

•Education of all stakeholders in the importance of proper practice to competition ratios;

•Develop strategies to access and make better use of facilities;

•Share "best practices" that are occurring within the basketball community, but also across sports;

•Develop a positive working relationship with schools in order to work together to implement LTAD;

•Reward programs and coaches who adhere to LTAD. They identify that they must ensure that "hidden" messages are not being sent through their competition rules that encourage coaches and leagues to violate LTAD principles. Very often when associations adopt season of play without restricting the number of games, coaches attempt to "load up" with the same number of games as were played in the past;

•Improve coaching education through the new NCCP;

•Reward coaches who consistently improve players individually over time;

•Assist coaches in the concept of "training through competition." The outcome of all games is not treated as important. Some games are designed as training;

•Coaches also need to recognize the amount of time that can be used for teaching by using warm up and half times as training and teaching time.

Rationale:

•In order to allow athletes to develop holistically in all areas, they need time to train. Athletes do not develop all of the important skills they need at the later stages of LTAD by playing games;

•Sport needs to develop the school model. Students go to class to learn the skills. The game is the time to exhibit their mastery of the skills. Lessons learned at a younger age are built on in a progressive nature leading the developing child to the adult stage of competency;

•Every child, even those who just want to play recreational sports, needs to develop the important movement skills at the right time in their development;

•Too many "adult"-like games with the emphasis on winning has been shown in study after study as the main reason for youth to quit sport.

8. The 10-Year Rule

Scientific research has shown that it takes a minimum of 10 years of training for a talented athlete to reach elite levels. The trap is that many people believe that early specialization is what is needed to make this happen. "If I start young then I will be better sooner." The opposite is actually true. Most athletes only have 10 years at an elite level. If you specialize too early the likelihood of staying in the sport is diminished.

Recommendations:

•Delay specialization until the appropriate time;

•Focus on multi-sport skills in the pre-PHV (before the onset of the growth spurt during puberty) stages;

•Move to specialization in basketball after PHV. Position specialization should occur later during the T2C stage;

•Education of the parents, coaches and players is crucial to assist them in making appropriate decisions;

•To be an elite athlete you will eventually need to specialize in your chosen sport;

•Training includes multiple positive repetitions of the skills of the game. You do not become a great ball handler, passer and shooter through playing the game. Self-practice has always been a key to becoming great in these areas;

•Develop relationships with other sports to stop the vicious cycle of competing for younger and younger athletes.

Rationale:

•Every child is an athlete and needs the proper grounding in movement in order to develop an appreciation for physical activity and therefore derive the health benefits. This will also let them make wiser decisions as to which pathway of sport to choose;

•When athletes reach the point where they need to specialize they will have the foundation required to excel at their highest level and the mental freshness to put in the required time;

•Poor decisions are being made too early in a child's development. This leads to a diminished number of athletes staying in the sport in the later years when they can specialize.

•To avoid burnout at an early age;

•To avoid overuse injuries;

9. System Alignment and Integration

Groups cannot work in isolation. Sport Canada is facilitating all delivery agencies of their sport to become aligned. Players/athletes do not remain in the same delivery system throughout their entire sporting experience. Players/athletes, coaches, officials and administrators should be able to move seamlessly from one delivery system to the next. One rule set is the best example of aligning our system. Participants need to see clear pathways for players, coaches, officials and administrators. There needs to be various entry points. These pathways must be available for all three streams of sport: health of the nation, develop the game and compete for the nation.

System alignment also involves integrating all of the ancillary groups into the sport system. This includes such groups as the sport scientists, trainers, managers, sponsors, etc.

Recommendations:

•Continue the movement towards one rule set;

•Formation of an LTAD rules committee to consider modifications for each stage of development;

•Continue to grow ways to bring the basketball community together;

•Work to develop positive working relationships with all deliverers of basketball;

•Continue to educate the grassroots as to the importance of LTAD;

•Distribution of the basketball specific LTAD posters;

•Develop resources to enhance sharing;

•Engage all partners in the process;

•Engage all levels of government to assist in aligning the system.

Rationale:

•Without an aligned system, we cannot impact the “game”;

•Sport Canada is moving to accountability. LTAD alignment is one of the key factors. Provincial sport organizations are also moving to the implementation of LTAD. This will move across ministries (i.e. health and education at the provincial level, sport and wellness at the federal level);

•An aligned system allows basketball to be a leader and have a positive influence in all areas of the Canadian Sport System and society.

10. Continuous Improvement (Kaizen)

Basketball must continue to respond to research that keeps them up to date. Need to input from all partners. Basketball has a sport science and medical program plan (SSMP) and is continuing to build Integrated Support Teams (IST). These are groups of world class experts who provide information to the coach on the most recent and up to date material.

Group decisions are made that produce the best possible training for the athletes. No one can be the expert on all areas of a sport. They must also constantly "mine the data" to share best practices within their sport and from other sports. Change is brought about through improvement and innovation. These must be monitored to evaluate their effectiveness.

Recommendations:

•Advisory committees need to be established to analyze current practices. These committees should be a cross section of the basketball community. It is not wise to have all members from a similar background and specialists in the same stage of LTAD;

•Action plans need to be developed to determine implementation strategies;

•Measurements need to be taken to determine the impact of the strategy;

•Constant monitoring needs to be done;

•Best practices need to be shared across the country;

•Sport-specific research needs to be done to explore the concepts and ideas that are currently in use.

Rationale:

•LTAD is a living, growing process, without constant monitoring it becomes another "flash in the pan";

•By engaging all parties in the process, they take ownership of LTAD.

Additionally, Canada Basketball includes what Canada for Life identifies as the 10 S's of training. These include the Five Basic S's: Stamina (Endurance). The window of optimal trainability for stamina occurs at the onset of the growth spurt. Aerobic capacity training is recommended before children reach their fastest rate of growth. Aerobic power should be introduced progressively after growth decelerates.

Strength-The window of optimal trainability for females is immediately after their fastest rate of growth and at the onset of menarche (first menstruation), while for males it is 12 to 18 months after their fastest rate of growth.

Speed-For males the first speed training window occurs between the ages of 7 and 9 years and the second window occurs between the ages of 13 and 16. For females the first speed window occurs between the ages of 6 and 8 years and the second window occurs between the ages of 11 and 13 years.

Skill-The window for optimal skill training begins at the age of 9 for males and the ages of 8 for females. This window ends at the onset of the growth spurt.

Suppleness (Flexibility)-The optimal window of trainability for suppleness in both females and males occurs between the ages of 6 and10. Special attention should be paid to flexibility during the growth spurt.

Finally, the Five Additional S's: Structure-The structure/stature component links the six stages of growth to the windows of optimal trainability. Coaches and parents can use statue measurements (i.e., height) before, during and after maturation as a guide for tracking developmental age. Such tracking then allows coaches to address the critical or sensitive periods of physical development (endurance, strength, speed and flexibility) and skill development. Diagnostics for identifying strengths and weaknesses are critical for properly considering structure and statue in the design of training plans.

(p)Sychology-Sport is a physical and mental challenge. The ability to maintain high levels of concentration while remaining relaxed and confident is a skill that transcends sport and enhances everyday life. To develop the mental focus for success at high levels, young athletes need mental training that complements their physical training, designed specifically for their gender and LTAD stage. Even at young ages, mental training is critical since dealing with success and failure impacts children's continuation in sport and physical activity.

Sustenance-When the body performs physical activity, it must be replenished with a broad range of components. Sustenance prepares athletes for the volume and intensity required to optimize training and live life to the fullest. Sustenance includes nutrition, hydration, rest, sleep, and regeneration - all of which need to be applied differently to

training and lifestyle plans depending on LTAD stage. In managing sustenance and recovery, parents can assist coaches by identifying fatigue. Fatigue can come in many forms including metabolic, neurological, psychological, environmental and travel. While overtraining or over-competition can lead to burnout, improperly addressing sustenance can lead to the same results.

Schooling-In designing training programs, school demands must also be considered. Programs should account for school academic loads, timing of exams and school-based physical activities. When possible, training camps and competition tours should complement, not conflict, with the timing of major academic events at school. Overstress should be monitored carefully, including the everyday stresses related to schooling, exams, peer groups, family, boyfriend or girlfriend relationships, and increased training volumes and intensities. Coaches and parents should work together to establish a good balance between all factors.

Socio-Cultural-Sports and physical activities often present children with social and cultural experiences that can enhance their holistic development. These experiences can broaden their socio-cultural perspective by providing increased awareness of:

- Ethnicity
- Geography
- Literature
- Diversity
- Architecture
- Music
- History

•Cuisine

•Visual art

Through periodization, annual planning, a child's activity or sport can offer much more than a simple commute between the activity venue and the home or hotel room.

Canada Basketball identifies 10 Key Factors of their ADM/LTAD:

Goals of ADM

•To provide a consistent, acceptable framework for coaches to use in developing players;

•To provide consistent leadership in the development of basketball in Canada;

•To provide age and stage appropriate competition to practice ratios that will allow our players to develop the skills fitting for their stage of development;

•To place the suitable emphasis on winning required for each stage of development;

•To ensure that the fundamental movement, mental, technical and tactical basketball skills are being introduced in a systematic and timely way;

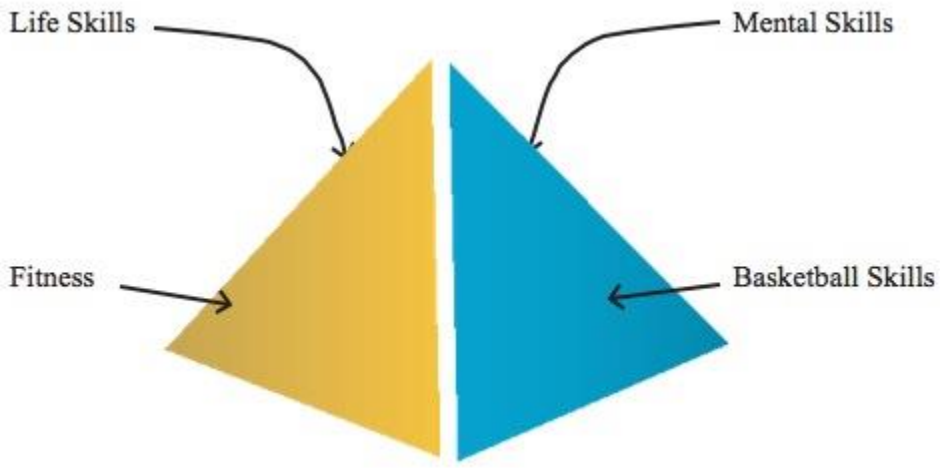
•To ensure appropriate considerations are taken to designing programs that will be inclusive and allow everyone the potential for self-fulfillment;

•To recognize the importance of quality leadership at all level of programming.

Canada Basketball has developed a basketball pyramid to aid coaches in their planning and teaching of the game of basketball. The pyramid has been adapted from the Hockey Canada Player Development Pyramid to fit the unique nature of the game of basketball. The pyramid combines the progressions a coach should use when teaching basketball skills, fitness, life skills and motivation with Canada Basketball's Athlete

Development Model (ADM). ADM uses long-term athlete development (LTAD) as its guide. It states that in order for athletes to achieve success at all stages of development the unique characteristics of each stage must be followed.

Player Developed Pyramid



The pyramid has four faces:

Face 1 - Basketball Skills

Face 2 - Fitness

Face 3 - Mental Skills

Face 4 - Life Skills

FUNdamentals

These are the foundation skills or principles that all players need to learn. In learning the FUNdamentals, the player will be educated in the “how to” and “why to” of basic basketball. For example; if a player knows how to dribble and why to dribble, he/she has acquired the basic fundamental skill of dribbling.

Technical

These skills are more specific in nature and involve decision making. The emphasis is on "when to" execute a skill of the game. Lots of repetition is required in order to enhance the learning of the skills. For example: if a player sees a defender's chest in front of his/her path and changes direction, the player has the technical skill of a "change of direction" dribble.

Strategy

This is the long-term plan. Here the learning takes place through exposure to real game-like conditions. The player is learning "what to do." For example: the players are taught a simple pattern or given roles or concepts to attack the defence in the half court. This would be considered the team's offensive strategy.

Tactics

These are the short-term adjustments that are made to the long-term plan. Tactics are very specific in nature and are used in preparation for or within a particular game. For example, the day before a game the team works on forcing players to drive left because they know the opponent can only drive right.

Long-Term Athlete Development

The final element is adding the long-term athlete development model to the pyramid. These triangles help show the coach what percentages of time should be spend on each element. The example below deals only with the basketball skill face. Work still needs to be done on the fitness/mental skills faces.

Teaching Progressions

Canada Basketball's ADM with stages

Canada Basketball's ADM has the following stages:

Active Start: Ages: 0-6-year-old females and males

The objective is to learn fundamental movements and link them into play. Physical activity is essential for healthy child development. Among its other benefits, physical activity also:

•Enhances development of brain function, coordination, social skills, gross motor skills, emotions, leadership and imagination;

•Helps children to build confidence and positive self-esteem;

•Helps to build strong bones and muscles, improves flexibility, develops good posture and balance;

•Improves fitness, reduces stress and improves sleep;

•Promotes healthy weight;

•Helps children learn to move skilfully and enjoy being active.

Physical activity should be fun and part of the child's daily life, not something required. Active play is the way young children are physically active. For this reason, it is recommended to steer clear of adult organized basketball at this time. Children with disabilities are encouraged to take part in organized physical activity and active play. It is important for the healthy development of children with disabilities that they acquire the habits of lifelong activity.

Children during this time rapidly outgrow their mobility aids (such as bicycle, skipping rope, etc.). Communities need to find effective ways - equipment swaps or rentals, for example - to ensure that all children have access to the equipment they need to be active.

FUNdamentals: Ages: 6-8-year-old females and 6-9-year-old males

A.6-7 for females and 6-8 for males - the emphasis is on fun games that use basketball to teach fundamental movements and introduce basic basketball skills.

B.7-8 for females and 8- 9 for males - modified basketball games (1-on-1, 2-on-2, 3-on-3, and 4-on-4) are used to consolidate fundamental movements and aid in acquisition of the

basic basketball fundamentals. During this stage the basic building blocks on which the game is built are being established. There are two parts:

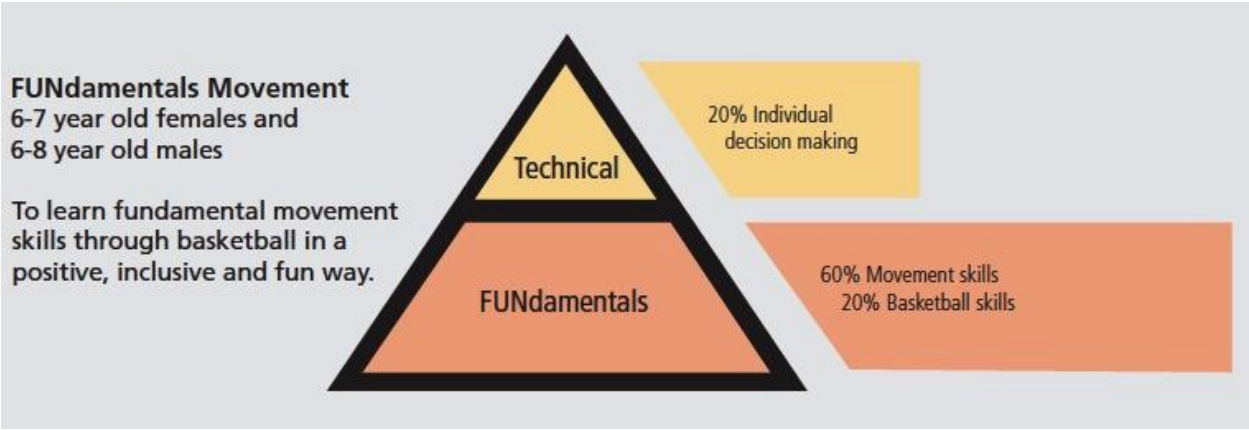
1. Fundamental movements - pushing, pulling, lunging, squatting, bending, twisting and our three gaits, walking, jogging and sprinting. When these movements are combined they create things such as agility, balance, throwing, catching, jumping, etc.

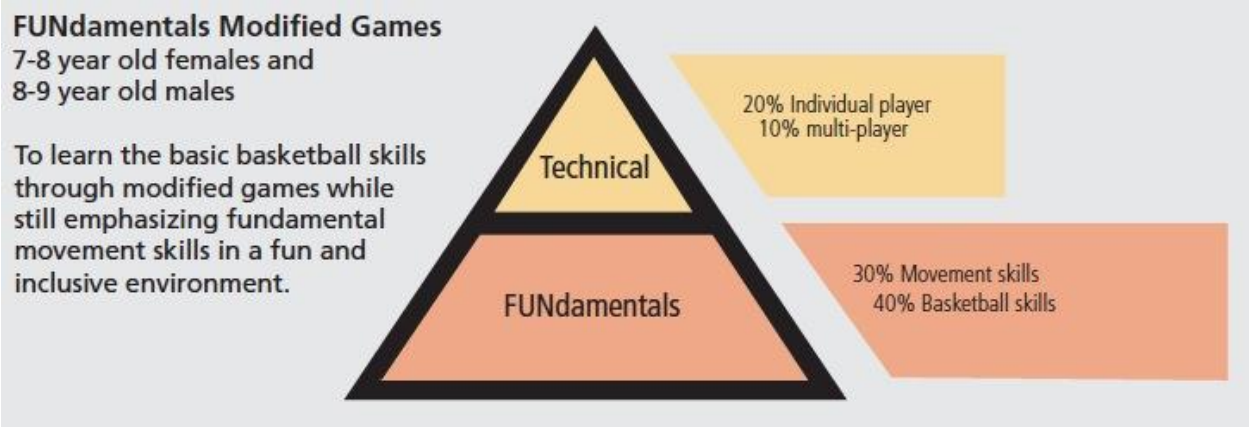
It is also important that players can perform these fundamental movements in the three planes of the body

-the frontal, which divides the body between front and back; the sagittal, which divides the body into right and left; and the transverse which divides the body into top and bottom.

2. Basic basketball fundamentals - these include stance, footwork, dribbling, passing and shooting. It is important that the athletes again are able to perform these skills using the many planes of the body. The key fundamental in regards to motivation is enjoyment. Players need to develop a love and passion for play. The technical decisions are based around simple decisions: should I pass or shoot? Should I dribble left or right?

FUNdamentals Stage

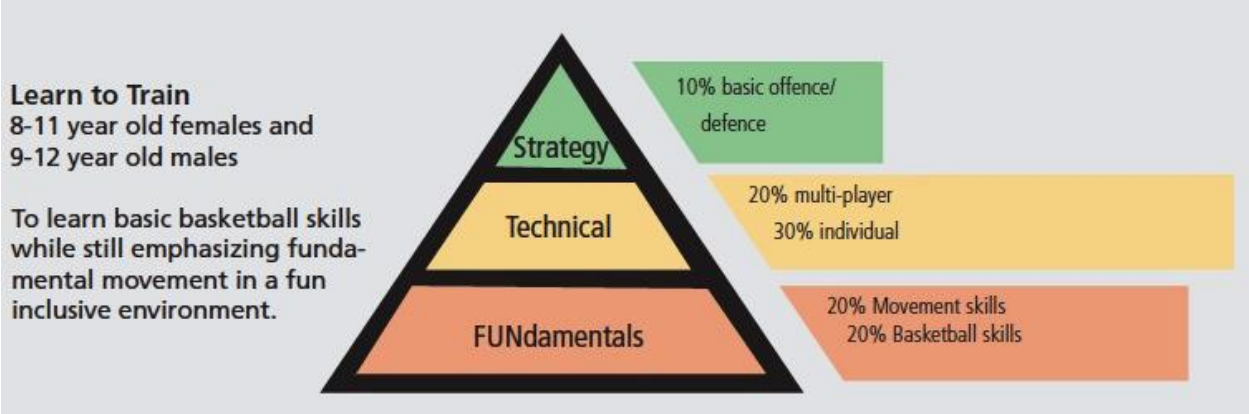




Learn to Train: Ages 8-11-year-old females and 9-12-year-old males

At this stage the technical skills can start to be emphasized. The basic fundamentals are still important since many children will also use this stage as an entry level. Simple developmentally appropriate tactics can be used to allow the children to play team basketball. Emphasis is on applying the basic skills to game-like situations. The players must make decisions on when to use the skills and how the skill should be properly applied. Technical skills can be individual or multi- player. The basic strategies evolve around basic offence and defence. Emphasis is on proper spacing and understanding of team play. Fitness is done through the game. Children can do body weight activities (example push ups, lunges, squats, etc.). Enjoyment is still a major component. Simple goal setting and concentration skills are also introduced.

Learn to Train Stage



Train to Train: Ages 11-15-year-old females and 12-16-year-old males

A.11-13 females and 12 -14 males - the emphasis is still on refining the fundamentals and consolidating the technical skills. Developmentally appropriate tactics become more important.

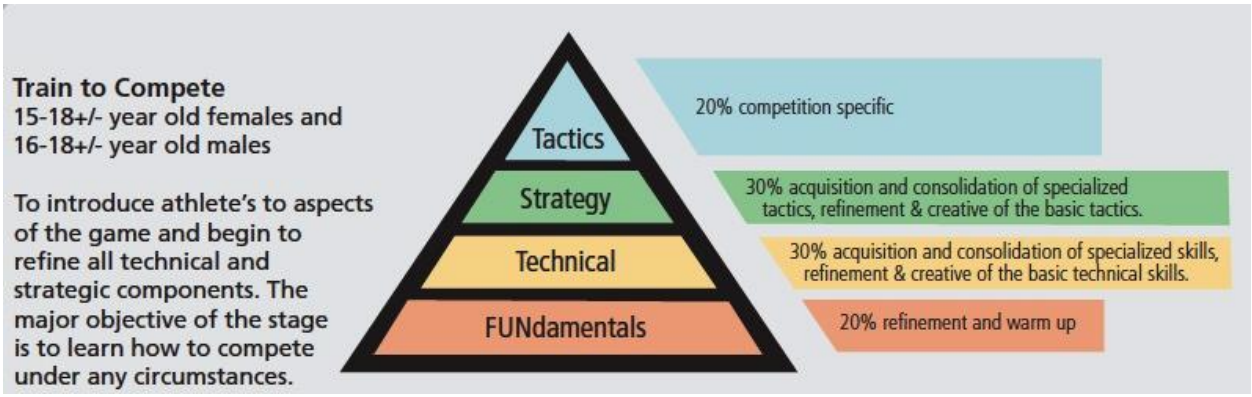
B.13-15 females and 14-16 males - players should be refining their technical skills. Some athletes will begin to become creative. Tactics such as zone offence/ defence and presses/press breaks are added during this stage. Near the end of this stage, simple strategies can be employed. When various technical skills are combined to form a system of play, you have created a tactic. These are conceptual in nature and still allow the players freedom to make decisions. Teams will have tactics for transition, offence, defence etc. Individualized training is important for the player to improve.

Train to Train Stage

Train to Compete: Ages 15-18+ females and 16-18+ males

During this phase, the basic fundamentals should be taken to the creative level. Players will be introduced to many higher level technical skills that allow them to start to specialize. Players will be exposed to most if not all strategies of the game. When various technical skills are combined to form a system of play you have created a strategy. These are conceptual in nature and still allow the players freedom to make decisions. Teams will have strategies for transition, offence, defence etc. Athletes should begin to have season plans for conditioning and motivational training taking into consideration the sum of the parts of their basketball year (i.e., high school, club, provincial, national) These should be developmentally appropriate and should include quality individualized training.

Train to Compete Stage



Learn to Win: Ages: 18-23+ females and 18-25+ males

The emphasis is on refinement of all technical skills. Basic tactical skills should also be in the refinement stage. Many should be in the creative stage. The athletes will have been introduced to all strategies and specialization and that is important. When a team adjusts or emphasizes a strategy in preparation for a specific opponent, the coach is applying tactic. The season plans become very specialized for each athlete.

Learn to Win Stage

Train to Win: Ages: 23 + females and 25 + males

The athletes should be able to work on refinement and creative skills. The major emphasis can be on high level tactics and strategy. Athletes need very personalized programs. Preparation also needs to begin for retirement and transition other phases of the athletes' lives.

Train to Win Stage

Train to Win: Ages: 23 + females and 25 + males

Stages of Development

The model recognizes that every individual chooses a different pathway in his or her quest to find self-fulfilment through the game. Basketball by its very nature is a competitive game. The level of competition falls on a continuum from having fun through participation to winning medals at the highest level of play. Closely tied to this continuum is the age of the participants and their skill levels. At a young age, it is recognized that fun and participation should be the highest priority. As age increases the amount of healthy competition can increase appropriately. As skills improve competition can also increase. There does however come a point in time when participants will want to drop out of highly competitive situations to return to participatory situations which are less competitive, but provide enjoyment and needed exercise. These opportunities are crucial for the health of the individual and the nation. It allows people of all ages to maintain their personal fitness, develop important values such as co-operation and teamwork and can alleviate many of society's pressing social problems. It gives people

something to do that is positive in their life. By following the stages of the Athlete Development

Model all participants will be given the proper grounding in the age-appropriate skills needed to play the game. The participants will then be able to make the right choice as to where on the competitive continuum he or she wishes to participate. There is a slight overlap in each stage of the model. The transition from one stage to the next is often flexible rather than a concrete separation because the stages are based on developmental age rather than chronological age.

It is very important that people are able to enter the model at any stage. Allowances must be made for people who are late entering the game. Because of the way our society works, a participant's biological age will most often determine which stage he or she is entering.

Coaches must be aware that specific skills may be lacking in someone who is new to the sport, but with proper coaching this can easily be overcome. Programs also need to be able to safely and effectively adapt activities to include children and adults with disabilities. They want the game to be inclusive, not exclusive. It is important to note that the Learn to Train (L2T) and Train to Train (T2T) stages in the model are biologically based. One cannot change these facts. You cannot rush human development. Young people will mature at various paces. Research has shown that chronological age is a poor basis for athlete development models, since the musculo-skeletal and emotional development of athletes between ages 8 and 16 can vary greatly within any given age category. The content of preparation should be adjusted to the developmental levels of the players.

Canadian Sport for Life, published by the Canadian Sport Centres, states that physical activity should be fun and a required part of the child's daily life, not something required. Active play is the way young children are physically active. Basketball is a late maturation sport and therefore does not recommend any formal, adult organized basketball at the Active Start stage of development. The overall development of an athlete begins around age 6. During these years when the athlete is aged 6 to 9, it is important that they acquire fundamental movement skills. This stage is called the FUNdamental stage of the process, and the underlying message is that children should have fun in all activities. During this stage the athlete will begin to develop the basic physical, affective, cognitive and psychosocial skills. This is the foundation upon which the child's personal and athletic potential should be based. Unfortunately, this is the stage that is usually neglected, because it is far too common that coaches with little or no experience are in charge of teaching a group of children. Coaches must be aware that during each stage of a child's development there are specific time periods when certain movement skills should be taught. By introducing the movement skills at the appropriate time the coach ensures that the athletes can reach their full athletic potential at some future date. By following this model, coaches will be able to meet these time frames. This experience must be extremely positive for the child. The child must be able to realize the enjoyment of success at this age. Therefore, successes must be made attainable.

The Canada Basketball Athlete Development Model recognizes that there are two sub-phases of the 5 FUNdamentals stage. The first is called the Movement phase. This is generally children ages 6 to 7 years old. Here basketball is learned through the fundamental movement skills. The second phase is the Modified Games phase which

encompasses children 8 and 9 years old. Basketball is learned here through modified games such as 1-on-1, 2-on-2, etc.

The Learn to Train or Basketball Skills stage of development follows the FUNdamentals stage. This is the major motor learning stage. It is often called the "skill hungry years" or the "golden age of learning" skills. One of the most important periods of motor development for children is between the ages of 9 to 12. During this time, children are developmentally ready to acquire the fundamental movement skills and fundamental sport skills that are the cornerstones of all athletic development. In addition, the basic basketball skills should be emphasized, but participation in other sports is still encouraged. Basic psychological skills such as goal setting and concentration can also be introduced.

Develop the Game

The Train to Train stage follows the Learn to Train stage and focuses upon athletes between the ages of 11 to 15 for females and 12 to 16 for males. The athletes will be introduced to many of the technical and tactical parts of basketball during these years. A more strategic, structured approach to training can be adopted during these years. An emphasis is still, however, on the fundamental movement skills. These movement skills can be further developed here, hopefully under optimal conditions. These skills are developed so that the athletes have the ability to reach their full athletic potential regardless of how intense training becomes in later years. As athletes begin to mature, the competition to practice ratio often becomes skewed to the competition. The focus is shifted from development to winning, with practices becoming few and far between. There is often too much emphasis on competing and not enough on teaching

fundamentals. Even during practices, focus is sometimes shifted to practicing sets, press break or scrimmaging, before a player can make a left-handed layup. Their focus as leaders of the next generation of players must be to develop well-rounded basketball players. This can only happen if coaches emphasize development of the individual player more so than the team.

Players need to learn the game, not a position. Individual development is the foundation.

As in the FUNdamentals stage there are two distinct phases of the Train to Train stage. It is during this time when the first major split in the competition/fun continuum occurs. Many athletes will not like the shift to the competition side and want to remain active in a more recreational setting. Others choose the more competitive side of the continuum. Both sides are important. The problem is when only one side of the continuum is available for delivery.

The Training to Compete (T2C) stage of training, involves athletes aged 15 to 18+/- for females and 16 to 18+/- for males. Very specific basketball, physical and mental training should now be applied. Athletes should be introduced to all aspects of the game and should begin to refine all technical aspects and most tactical components. Athletes may also begin high performance training (i.e., provincial teams, clubs' teams) and need to compete against quality competition in order to improve. A high level of intensity should be associated with all training endeavours. Individualized training is paramount.

Compete for the Nation

The next two stages of athlete preparation are the Learn to Win (L2W) and Training to Win (T2W) stages and involve athletes 18 years and older. All of their technical, tactical,

physical, mental and ancillary skills and capacities should be fully established and can be refined. Shorter periods of training at high level of intensity accompanied by frequent recovery breaks to avoid burnout are recommended.

Basketball activities should be fully integrated with sport science and sport medicine programs. Athletes between the ages of 18 to 25 +/- for males and 18 to 23 +/- for females will be in Learning to Win. These athletes will be competing in the CIS, CCAA or the NCAA. Training to Win stage is 25+/- for males and 23 +/- for females. These players will be playing professionally, aspiring to represent Canada.

Health of the Nation

The final stage of the model is Retirement and Retainment or Active for Life. During these times players will be moving from very competitive situations into more recreational programs. For many highly competitive athletes this is a time of great change. A program to aid these players in this process is crucial. For many it is retraining them into different roles, such as coaches, referees and administrators within the basketball system.

It is important to note that while this does provide a path for coaches to follow, all successful players will have one thing in common - a love or passion for the game. They, as administrators, coaches, parents and volunteers, must ensure that they provide an environment that allows players to get “hooked” on basketball. If this occurs the athletes will instinctively want to learn, to challenge their full potential.

The Canadian Long-Term Athlete Development Model (LTAD)

The core concept of the Canadian LTAD system and their Basketball Athlete Development Model (ADM) is that it recognizes that better athletic performances and a

greater percentage of the population engaged in health-promoting, physical activity, are both outcomes of a well-developed sport development system.

LTAD is:

• optimal training, competition and recovery programming with relation to biological development and maturation

• equal opportunity for participation and competition

• and athlete-centred, coach-driven and administration, sport science and sponsor supported.

The process to develop their sport's LTAD was extensive, inclusive and comprehensive. Knowledge was sought from experts across Canada and in-depth discussions have analyzed how their sport can adjust to integrate LTAD into all that we do.

This process initiated re-thinking ALL aspects of their sport including the three most difficult asks of changing:

1. **System Alignment:** aligning the basketball community under one set of rules.

2. **System Alignment and Integration:** developing and integrating clear pathways that allow players, coaches, officials and administrators to progress through the system. These pathways must permit players to be involved in three distinct streams: health of the nation (recreational in nature), develop the game and compete for the nation. The pathways must also integrate a positive relationship between the educational and club-delivery system.

3. **Competition Schedules:** ensure the appropriate ratio of training to competition at all ages. Within our current development system, we have produced a delivery stream of basketball called "competition." This was not a planned process. For numerous reasons

the majority of their developing players are playing too many games without the opportunity to gain proper practice of the skills needed to play the game.

ADM Implementation

It is hoped and encouraged that those organizations and programs that are currently providing basketball services for athletes will use this model to review their existing methodology in the development of their athletes. At each level, especially the younger levels, there are a number of implementers in each local area. It is important to emphasize here that there must be very co-operative relationships at each stage and between stages for this model to be effective.

This would mean the following:

• The set criteria for each age level be known by each local authority;

• The recognition that each local authority may not be able to deliver the information effectively;

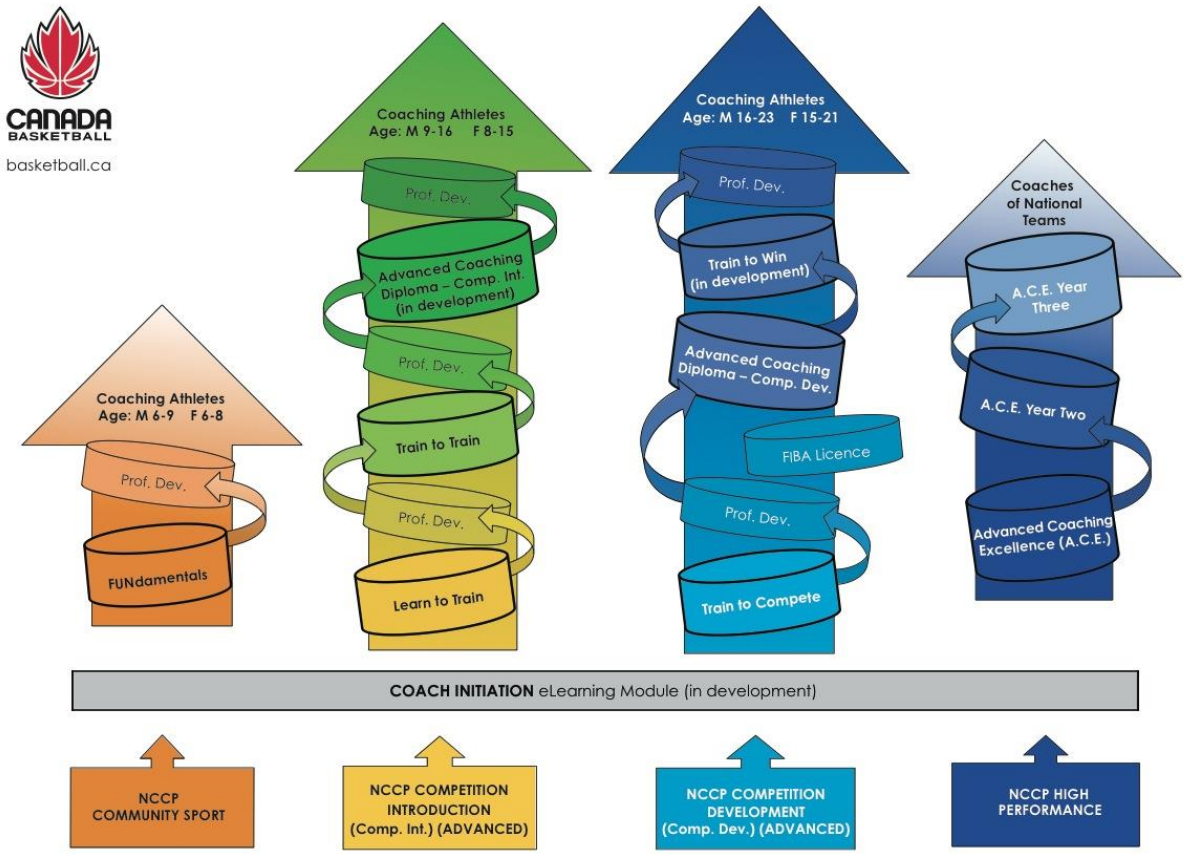
• That each local authority makes a strong effort to educate coaches according to the stage of the athletes they are coaching;

• That the current system by which coaches are educated must be altered to cater to the developmental age specific needs of athletes;

• It must be recognized that not all participants wish to reach the highest levels. Therefore, being ultra-structured and specific may turn some athletes off the sport. These athletes should be placed in less time consuming and intense environments than the athlete who wishes to compete at the highest level.

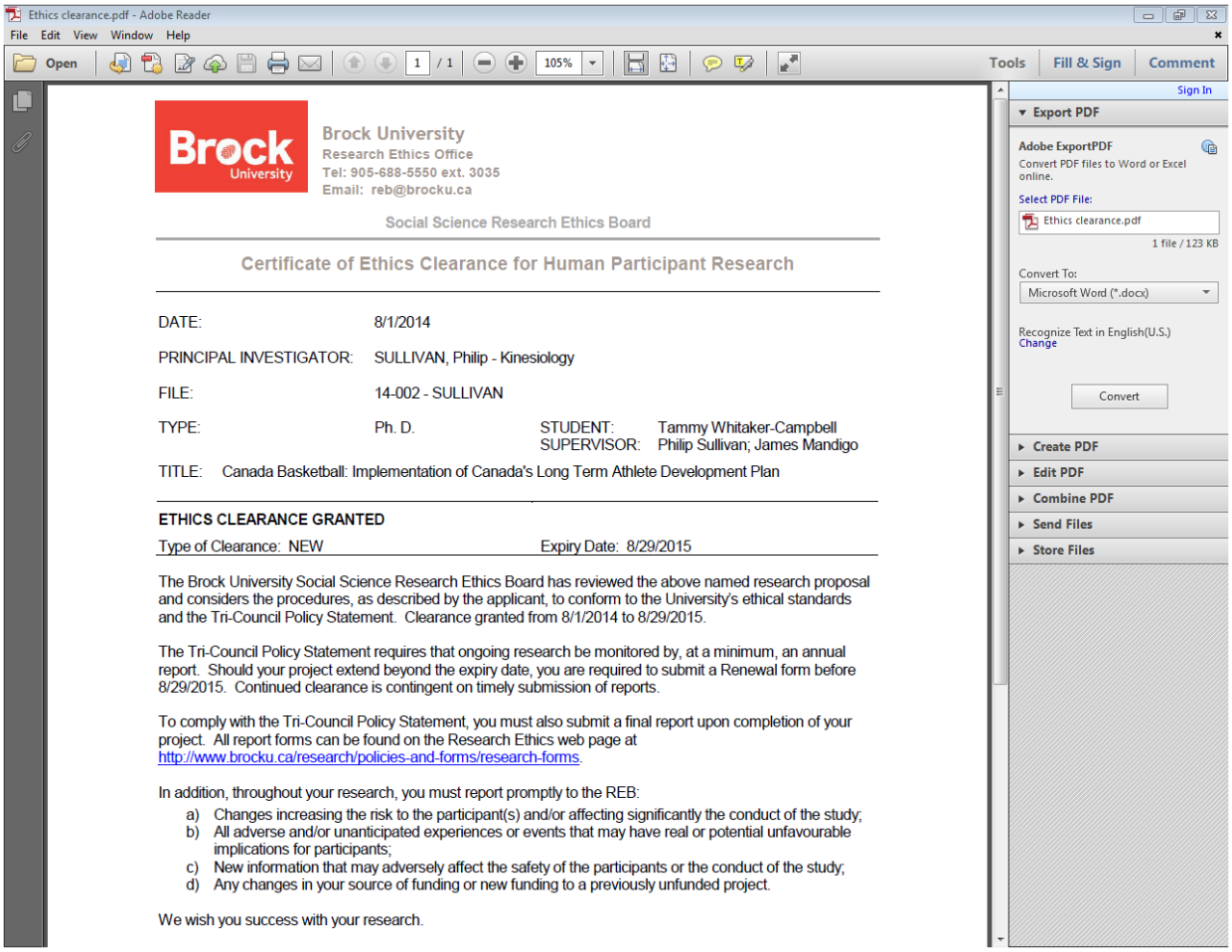
Learning Facilitators

Considering that coaches are the individuals who are primarily responsible for interpreting and delivering LTAD, it is important to understand who they are receiving knowledge from. Every NCCP workshop for coaches is led by a trained Learning Facilitator who has undergone a standardized training process. Learning Facilitators are crucial to the development of skilled, knowledgeable coaches and through those coaches, athletes/participants are safer, happier and more successful (Coaching Association of Canada, 2013). The goal of a Learning Facilitator is to effectively facilitate sessions that result in the development of coaches who are able to demonstrate their abilities and meet the standards established for certification. A Learning Facilitator should have the appropriate knowledge, skills, and attitudes to facilitate workshops using the competency-based approach. In addition, they serve as contributing members of the community and ambassadors for the NCCP (Coaching Association of Canada, 2013).


CANADA BASKETBALL
basketball.ca
Coaching Athletes Age: M 6-9 F 6-8
Prof. Dev.
FUNdamentals
Coaching Athletes Age: M 9-16 F 8-15
Prof. Dev.
Advanced Coaching Diploma – Comp. Int. (in development)
Prof. Dev.
Train to Train
Prof. Dev.
Learn to Train
Coaching Athletes Age: M 16-23 F 15-21
Prof. Dev.
Train to Win (in development)
Advanced Coaching Diploma – Comp. Dev.
FIBA Licence
Prof. Dev.
Train to Compete
Coaches of National Teams
A.C.E. Year Three
A.C.E. Year Two
Advanced Coaching Excellence (A.C.E.)
COACH INITIATION eLearning Module (in development)
NCCP COMMUNITY SPORT
NCCP COMPETITION INTRODUCTION (Comp. Int.) (ADVANCED)
NCCP COMPETITION DEVELOPMENT (Comp. Dev.) (ADVANCED)
NCCP HIGH PERFORMANCE

Appendix B

Ethics Clearance



Ethics clearance.pdf - Adobe Reader

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Open 1 / 1 105% Tools Fill & Sign Comment

Brock University
Research Ethics Office
Tel: 905-688-5550 ext. 3035
Email: reb@brocku.ca

Social Science Research Ethics Board

Certificate of Ethics Clearance for Human Participant Research

DATE: 8/1/2014

PRINCIPAL INVESTIGATOR: SULLIVAN, Philip - Kinesiology

FILE: 14-002 - SULLIVAN

TYPE: Ph. D. STUDENT: Tammy Whitaker-Campbell
SUPERVISOR: Philip Sullivan; James Mandigo

TITLE: Canada Basketball: Implementation of Canada's Long Term Athlete Development Plan

ETHICS CLEARANCE GRANTED

Type of Clearance: NEW Expiry Date: 8/29/2015

The Brock University Social Science Research Ethics Board has reviewed the above named research proposal and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement. Clearance granted from 8/1/2014 to 8/29/2015.

The Tri-Council Policy Statement requires that ongoing research be monitored by, at a minimum, an annual report. Should your project extend beyond the expiry date, you are required to submit a Renewal form before 8/29/2015. Continued clearance is contingent on timely submission of reports.

To comply with the Tri-Council Policy Statement, you must also submit a final report upon completion of your project. All report forms can be found on the Research Ethics web page at http://www.brocku.ca/research/policies-and-forms/research-forms.

In addition, throughout your research, you must report promptly to the REB:

a) Changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
b) All adverse and/or unanticipated experiences or events that may have real or potential unfavourable implications for participants;
c) New information that may adversely affect the safety of the participants or the conduct of the study;
d) Any changes in your source of funding or new funding to a previously unfunded project.

We wish you success with your research.

Sign In
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Convert PDF files to Word or Excel online.
Select PDF File:
Ethics clearance.pdf
1 file / 123 KB
Convert To:
Microsoft Word (*.docx)
Recognize Text in English(U.S.)
Change
Convert
Create PDF
Edit PDF
Combine PDF
Send Files
Store Files

Appendix C

Log For Recording Verbal Consent

On The Ball: Implementation of Canada Basketball's Athlete Development Model
Researcher: Tammy Whitaker-Campbell

RESEARCHER'S LOG FOR RECORDING VERBAL CONSENT
A=Administrator, LF=Learning Facilitator, C=Coach

Participant's Unique Research Name	Participant's Name	Date:

Appendix D

Interview Guides

Note. Semi-structured interviews will be used. In the following section, questions that will be asked across all interviews are included. But, as the semi-structured approach dictates, the interview guides will be used in a flexible manner.

Administrator/Learning Facilitator Interview Guide

Part 1: Background and Rapport Building

- Do you remember how you first got involved in basketball yourself?
- Could you give me a quick 'overview' of your own career in basketball (before you started as an administrator/learning facilitator)?
- What are some of the 'highlights' of your basketball involvement (prior to administration)?
- What are some of the 'lowlights' of your basketball involvement (prior to administration)?

Part 2: Approach to Administration/learning facilitator

- How and why did you become a basketball administrator/learning facilitator?
- Could you give me an overview of your career to date as a basketball administrator/learning facilitator?
- What do you like about being an administrator/learning facilitator?
- How would you describe your administrator/learning facilitator style?
- What do you think the role of the administrator/learning facilitator is?
- What are the main principles you emphasize in your leading?

- What are the main things that you think your coaches have learned from you?
- How would you describe your relationship with your players and with coaches?
- What do you think the benefits are of children being involved in basketball?
- Can you tell me what your organization's philosophy is towards basketball?

Part 3: Questions specific to LTAD

- How does your organization view LTAD?
- Does your organization have a framework for guiding the use of LTAD?
- What do you believe have been the most important factors implemented at your organization for helping to incorporate LTAD?
- What do you think are the goals of LTAD?
- Do you understand the various levels of LTAD? Can you discuss them?
- What are your organization's goals for the players in LTAD?
- Did you attend any specific LTAD training program? [Probes: What did you think about it? What did you learn about? If you did not attend, why not?]
- Do you view LTAD as an important tool? Why or why not?
- What you think are the strengths of LTAD? Weaknesses?
- Can you tell me about your experiences using LTAD?

- How would you say that skills are developed and enhanced through LTAD?
- What are your impressions of the development markers for the players? [Probes: do they provide enough information? Are they comprehensible? For you, the coaches, the parents and the players? Do you have suggestions for the development markers?]
- What kind of challenges if any do you face while implementing/educating coaches using LTAD?
- What are some of the benefits if any that the players and coaches will experience from being involved in LTAD?
- To date what have been the key factors in enabling LTAD?
- What strategies have you used to foster the use of LTAD?
- What are the main challenges that you face in relation to using LTAD?
- What are the main benefits that you face in relation to using LTAD?
- Do you have any suggestions for improving LTAD? [Probes: What would make it better? Worse?]
- What is your intended future use of LTAD?
- Do you have anything further to add regarding LTAD?

Concluding Question

- Is there anything I have not asked you about LTAD, or your work as an administrator/learning facilitator, that you think I should know?

Coach Interview Guide

Part 1: Background and Rapport Building

- Do you remember how you first got involved in basketball yourself?
- Could you give me a quick ‘overview’ of your own career in basketball (before you started coaching)?
- What are some of the ‘highlights’ of your basketball involvement (prior to coaching)?
- What are some of the ‘lowlights’ of your basketball involvement (prior to coaching)?

Part 2: Approach to Coaching

- How and why did you become a basketball coach?
- Could you give me an overview of your career to date as a basketball coach?
- What do you like about coaching?
- How would you describe your coaching style?
- What do you think the role of the coach is at this level?
- What are the main principles you emphasize in your coaching?
- What are the main things that you think your players have learned from you?
- How would you describe your relationship with your players?
- What do you think the benefits are of children being involved in basketball?

Part 3: Questions specific to LTAD

- How does your club/organization view LTAD?

- Does your club/organization have a framework for guiding the use of LTAD?
- What do you believe have been the most important factors implemented at your club/organization for helping to incorporate LTAD?
- What do you think are the goals of LTAD?
- Do you understand the various levels of LTAD? Can you discuss them?
- What are your club's/organization's goals for the players in LTAD?
- Did you attend any specific LTAD training program? [Probes: What did you think about it? What did you learn about? If you did not attend, why not?]
- Do you view LTAD as an important tool? Why or why not?
- What you think are the strengths of LTAD? Weaknesses?
- Can you tell me about your experiences using LTAD?
- How would you say that skills are developed and enhanced through LTAD?
- What are your impressions of the development markers for the players? [Probes: do they provide enough information? Are they comprehensible? For you, the learning facilitators, the parents and the players? Do you have suggestions for the development markers?]
- What kind of challenges if any do you face while implementing/educating players on using LTAD?
- What are some of the benefits if any that the players and coaches will experience from being involved in LTAD?

- To date what have been the key factors in enabling the use of LTAD?
- What strategies have you used to foster the use of LTAD?
- What are the main challenges that you face in relation to using LTAD?
- What are the main benefits that you face in relation to using LTAD?
- Do you have any suggestions for improving LTAD? [Probes: What would make it better? Worse?]
- What is your intended future use of LTAD?
- Do you have anything further to add regarding LTAD?

Concluding Question

- Is there anything I have not asked you about LTAD, or your work as an coach, that you think I should know?

Appendix E

Pre-Interview Script (For in person, telephone, or over the internet)

Welcome and thank you for your participation today. My name is Tammy Whitaker-Campbell and I am a graduate student at Brock University conducting my Dissertation research in partial fulfillment of the requirements for the degree of Doctor of Philosophy. This interview will take about 60 minutes and will include questions regarding your experiences with the use of Athlete Development Model (ADM)\Long-Term Athlete Development(LTAD). I would like your permission to tape record this interview, so I may accurately document the information you convey. If at any time during the interview you wish to discontinue the use of the recorder or the interview itself, please feel free to let me know. All of your responses are confidential. Your responses will remain confidential and will be used to develop a better understanding of how administrators, learning facilitators and coaches are using LTAD. The purpose of this study is to evaluate the perceived benefits and challenges associated with using ADM\LTAD for Basketball in Canada.

At this time, I would like to request your verbal consent to participate in this study? Thank-you. I am the responsible investigator, specifying your participation in the research project: On The Ball: Implementation of Canada Basketball's Athlete Development Model. I will keep all the related information for this research under lock and key, separate from one another responses. My supervisor and I are the only ones who will have access to this information. There will be nothing reported in the dissertation that will risk your identity. Thank you.

Your participation in this interview is completely voluntary. If at any time you need to stop, take a break, or return to an answer please let me know. You may also withdraw your participation at any time without consequence. Do you have any questions or concerns before we begin? Then with your permission we will begin the interview.

Appendix F

Gender Distribution

Administrators (all full time staff)
CEO:
Female: 1

Full time staff:
Male: 11
Female: 8

Directors:
Male: 2
Female: 3

Provinces Executive Directors:
Male: 10
Female: 2

Learning Facilitators:
National Learning Facilitators
Male: 9
Female: 7

Provincial Learning Facilitators
Male: 90
Female: 27

Coaches:
National team coaches (head and assistant – Cadet, Junior, development, senior):
Male: 16
Female: 10

Provincial team coaches:
I don't have the numbers but they would again be lopsided.
We have a rule in place that states if the head coach is male you must have two female assistant coaches. It is often not followed and there are no consequences. Provinces are very difficult to influence as we don't have any strings (money comes from the provincial government) and they are led by males. It would be an initiative if they have a personal interest (D. Smyth, personal communication, December 16, 2016).